An action research inquiry exploring the transfer of pain knowledge from a continuing education course into practice

Annetta Smith   9822182

Department of Nursing and Midwifery

University of Stirling

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Abstract

Acute and chronic pain conditions have a significant impact on the individual who is experiencing pain and resolution of pain continues to present a challenge to nurses and other health care professionals. It is widely accepted that pain education for nurses is necessary if nurses are to deliver effective, evidenced based pain care. Although it has been shown that participation in pain education improves nurses' pain knowledge, very little is known about the way in which nurses use their improved pain knowledge in their practice or about the conditions that promote application of that pain knowledge. The aims of this study are (a) to explore the transfer of pain knowledge from a continuing education nursing course into practice, and (b) to investigate the impact that the nurses' participation in action research has on their ability to improve aspects of their pain practice.

Participants are 14 registered nurses who successfully completed two accredited pain course units as part of their BSc / BN degree in Nursing. The nurses formed two groups of inquiry, who used both their participation in the pain course and in action research to investigate and change aspects of pain assessment and management practices within their clinical areas. The inquiry groups were located in two different Health Board locations in Scotland.

Following involvement in a pain course, the strategies used by the participating nurses to enhance their pain assessment and management practices are examined. Qualitative data was obtained through individual and group

interviews, and analysis of significant incidents. An action research approach contributes to an understanding of conditions that promote application of pain knowledge into practice following participation in the course, and focuses on the possibilities for action and improvement of pain care. The findings from this study demonstrate how nurses develop a more patient-centred approach to pain care and become more accountable for their pain practice. The research also identifies a range of strategies used by nurses to improve collaborative working practices with their colleagues that help to reduce some of the obstacles to delivery of effective pain care.

From the outcomes of the inquiry, it is evident that these nurses' participation in action research has increased the possibilities of their involvement in pain practice interventions. Conditions are created through pain course participation and involvement in action research, which supports nurses' transfer of pain knowledge into practice Additionally, findings demonstrate the potential action research has for identifying problems with pain care and its potential for helping to develop relevant and workable solutions for improving aspects of care. The findings from this study are significant because they inform teaching and learning approaches which can be used with pain education that helps to prepare nurses to deliver more effective pain care within their health care settings.

Acknowledgements

Abbreviations

BPS   British Pain Society

DOH   Department of Health

DREC   Department Research Ethics Committee

HBREC   Health Board Research Ethics Committee

ISAP   International Association for the Study of Pain

JCAHO   Joint Commission on the Accreditation of Healthcare Organisations

MPQ.   McGill Pain Questionnaire

NICE   National Institute for Health and Clinical Excellence

NMC   Nursing Midwifery Council

NHSS   National Health Service Scotland

SCQF   Scottish Credit and Qualifications Framework

SIA   Significant Incident Analysis

SIGN   Scottish Intercollegiate Guidelines Network

PAR   Participatory Action Research

PGD   Patient Group Directions

RCN   Royal College of Nursing

WHO   World Health Organisation

Chapter 1 Introduction and overview

This action research inquiry explored the transfer of pain knowledge from a continuing education pain course into practice. Despite significant investment in pain education, our understanding about the way in which nurses use their improved pain knowledge in practice is limited. The ultimate goal of pain education is the improvement of pain care to reduce patient suffering and enhance health care outcomes. It was therefore important to determine how nurses use pain knowledge acquired through a continuing education course in their practice and to gain an understanding of the conditions that promote application of pain knowledge. Action research provided a method of inquiry that developed knowledge and understanding around conditions of nurses' pain practice and focused on the possibilities for action and improvement of pain care.

The main findings that emerged from this inquiry explain:

- How nurses used pain knowledge to enhance their pain practice and the conditions that promoted application of that pain knowledge.
- The strategies nurses used to overcome practice barriers to deliver enhanced pain care following participation in a pain course and in action research inquiry.
- The aspects of the action research inquiry that nurses regarded as worthwhile for improving pain practice.

The findings that emerged from the study are significant because identification of the successful features of pain education can inform education providers of the most effective approaches for delivering pain education that impact on nurses' pain practice and ultimately on the patients' pain experience.

In this short introductory chapter, I provide a brief overview of pain and introduce pain education as the area of central focus for the research. I then set out the organisation of the thesis and outline the main findings from each chapter. Overall, this introductory chapter provides a cohesive overview of the thesis and sets out the framework for the inquiry.

Throughout this thesis I use the phrase pain care, as an encompassing term that both describes pain assessment and pain management activities. As effective pain care is dependant upon the responsive interaction between pain assessment and pain management, pain care captures both of these activities. When applicable, I make the distinction between pain assessment and management.

The belief that pain is unique to the individual experiencing is reinforced in the widely used definition of pain in nursing. McCaffery (1983:85) states that 'pain is whatever the experiencing person says it is, existing whenever he says it does'. Importantly, the International Association for the Study of Pain (IASP) (1979) highlight how an inability to communicate verbally does not negate the possibility that an individual is experiencing pain and is in need of appropriate pain-relieving treatment. Consequently, pain is defined by the (IASP) (1979)

as 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage'. The unique and subjective dimension of the pain experience which arises from individual biological, social and psychological determinants underscores the personal nature of pain.

Pain is often the significant symptom associated with medical conditions and can significantly impede an person's quality of life. It is therefore not surprising that the prevalence of pain in the population is well documented both in community and hospital settings. Brennan *et al.* (2007) reviewed the global scale of the pain problem, and were critical of the extent of unrelieved pain in three areas; including acute pain, chronic non-cancer pain and cancer pain. It is therefore not surprising that pain is commonly cited in literature as the most frequent reason for seeking medical consultation (Berdine 2002, Polomano *et al.* 2008), and is one of the most common reasons for seeking care in the hospital setting (McLean *et al.* 2004). The true magnitude of pain as a problem in the population is apparent as research studies continue to verify its prevalence. For example, in an extensive review of 3605 people in the Scottish Grampian region, Elliot *et al.* (1999) show that about half of people in the community suffer chronic pain and for about half of those the pain was significant. Notably, Elliott *et al*. (1999) contend that the indications were that much of the pain was poorly treated. Even in hospital settings where pain treatments should be accessible and effective, the evidence continues to confirm the existence of unnecessary pain and suffering (Huang *et al.* 2001, Dolin 2002).

The results of good pain assessment and pain control are clearly documented in the literature. These include improved patient outcomes and satisfaction with care, shortened hospital stays and decreased financial cost (Innis *et al.* 2004*,* Polomano *et al.* 2008). Conversely, the consequences of pain mismanagement result in both human suffering and economic costs (Innis *et al.* 2004, Maclaren and Cohen 2005, Brennan *et al.* 2007). When pain is not effectively treated and relieved, it has a detrimental effect on the person's quality of life. The literature is replete with examples of harmful effects of untreated pain conditions. For example, a study by the World Health Organisation (WHO) maintains that individuals who live with persistent pain are four times more likely than those without pain to suffer from depression or anxiety (Gureje *et al.* 1998).

Pain relief is therefore an important issue in the quality of patient care. Indeed the moral requirement to alleviate pain, and treat patients effectively, has been fittingly described by Fischer and Scott (1995: 1023) who maintain that good quality analgesia was a worthwhile humanitarian and ethical goal in its own right. Further emphasising the ethical imperative of effective pain treatment, in 2004 the International Association for the Study of Pain (IASP) lobbied for the relief of pain as a human right. In 1996 the American Pain Society first promoted the phrase 'pain as the fifth vital sign' to increase awareness and visibility of pain treatment. By simply aligning routine pain assessment to other physiological signs, pain assessment was prioritised as an essential aspect of patient care. Currently, the Chronic Pain Policy

Coalition is campaigning to establish pain as the fifth vital sign in the UK. The Coalition maintain that if pain was routinely assessed with the same priority given to other vital signs then a great deal of unnecessary suffering, stress and anxiety could be avoided (Chronic Pain Policy Coalition 2008).

There has been a growing awareness about the need to deliver proficient pain care to patients and effective pain relief is recognised as being closely related to both patients' overall satisfaction with care and as an outcome to evaluate the effectiveness of care (Ferrell *et al.* 1991, Grant *et al.* 1999). Increasingly, initiatives and efforts are directed to improving patients' pain outcomes by meeting standards of care for pain established through published research and clinical guidelines. For example, in the UK the British Pain Society (BPS), the Royal College of Physicians, the Scottish Intercollegiate Guidelines Network (SIGN) and the National Institute for Health and Clinical Excellence (NICE) all produce contemporary guidance, supported by available evidence, on clinical and pain related practice. The purpose of these guidelines is to provide clinicians with evidence to guide pain assessment and management strategies to achieve the best possible pain control. Within the past twenty years, these agencies have used an extensive body of knowledge and endeavoured to increase standards of care by bringing evidence based pain care and pain practice performance closer together. Most importantly, as evidence and resources to alleviate pain are widely accessible, much suffering is both unnecessary and preventable.

Clinical guidelines have concurrently been augmented by extended and specialised nursing roles and sustained efforts to educate nurses and other health care professionals about good pain care practices are having an impact on patient experiences. However, whilst both nursing and healthcare literature reports on efforts to improve pain care, concerns about pain management persist. An abundant body of research verifies that some patients continue to experience unsatisfactory pain care and consequently suffer from unrelieved pain (Ferrell *et al.* 2001, Pasero and McCaffery 2004). Additionally guidelines have been slow to change attitudes and behaviours of health care professionals (Brockopp *et al* 1998, Bucknall *et al* 2001, Muir 2006, Seers *et al* 2006). The challenges of implementing evidenced based pain care therefore persist and reasons for this are multifaceted but are at least partly due to practice complexities and deficiencies in pain knowledge.

For some time I had been involved in the development and delivery of pain courses for Registered Nurses and am therefore interested in the effect pain education has had on participants' knowledge, attitudes and ultimately on their pain practice. Both post-course evaluations and assessment results provided indicators of course success, but these have offered limited insight into practice impact. These background issues have provided both the impetus for my inquiry and presented a point of departure from the traditional evaluation based research that exists about the effects of pain education on nurses' knowledge. Action research offered an approach to inquiry that incorporated nurses as participants in the critical development of their pain practice alongside their participation in a pain course. This thesis provides an

account of the experience of two groups of Registered Nurses who participated in a pain course as part of an undergraduate degree programme and concurrently took part in an action research inquiry to help develop pain care in clinical practice.

ORGANISATION OF THE THESIS

In Chapter 2, I review the substantive literature which examines how evidence based pain care is delivered in practice. I conclude that there are compelling indications that problems persist with the application of recommended pain assessment and management practices. I explore literature that investigates the effects of pain course participation on nurses' knowledge and pain practice. I maintain that education does make an impact on nursing knowledge and, despite barriers that nurses and other healthcare professionals face, there is an increasing body of evidence to demonstrate positive impact on pain practice. However, despite some encouraging reports of practice impact, I argue that transfer of pain knowledge into practice continues to be hampered by the theory-practice gap as nurses attempt to reconcile application of pain theory into the realities of their practice. A gap exists in the literature about how nurses use knowledge gained through pain course participation in their practice. Additionally there is limited information about the impact of pain education on practice barriers.

I argue that when theory is perceived as relevant, appropriate and achievable, and is rooted in practice, some of the limitations associated with the theory-practice gap may be overcome. I present an argument for action research to

be used in collaboration with education participation as a means of bridging this gap.

Based upon the substantive issues raised in the literature, the research questions were:

How do nurses use knowledge gained during a pain course in their clinical practice?

How do nurses negotiate barriers in their clinical environments to improve pain practices following participation in a pain course?

How does engagement in action research affect nurses' capacity to influence pain assessment and management practices?

In Chapter 3, I review the different philosophical and epistemological traditions of action research. I conclude that approaches to action research can vary with differing forms and areas of inquiry, but all maintain the consistent goals of practice improvement and involvement. I present my interpretation of action research that combines elements from each of the traditions and argue that my approach is compatible within the aims of my inquiry and is congruent within the broader context of healthcare research. Limitations of action research are examined critically and the safeguards applicable to this inquiry are presented. I conclude by reviewing the following phases of the action research cycle used in my study. These phases comprise; problem identification, planning, action and evaluation. I describe how these formed the framework for the inquiry.

In Chapter 4, I describe the pain course, the nurse participants (n=14) and my role as both researcher and course teacher. This chapter builds on the preceding chapter by reviewing the approaches to data collection and analysis that were compatible with the research aims. I describe how data were generated at all phases of the research cycle, including problem identification, planning, action and evaluation. A form of methodological triangulation using three different qualitative data collection techniques was used to collect data and included individual and group interviews and Significant Incident Analysis (SIA). I demonstrate how these data sources tapped into different aspects of the action research inquiry.

One of the challenges I encountered with my inquiry was to present the findings in a way that provided a cohesive and understandable account of the phases of action research, whilst also addressing the research questions. The chapters are organised to elucidate the answers to each of the research questions and follow through the phases of the action research cycle. I have drawn on the literature, where appropriate, to illuminate findings from the data. Herr and Anderson (2005) consider this dialogue between findings and existing literature an important aspect of action research, which can add to the wider knowledge base, rather than data contributing exclusively to local theory. I have used extracts from interviews and SIA to illustrate how nurses' insights and understandings shifted throughout the research process and to represent their experience of research participation.

Key for data:

1st Group interview, Group 1 = 1GI   1st Group interview, Group 2 = 1G2

2nd Group interview, Group 1 = 2G1   2nd Group interview, Group 2 = 2G2

3rd Group interview, Group 1 = 3GI   3rd Group interview, Group 2 = 3G2

Individual interview, Group 1= I1   Individual interview, Group 2 = I2

Significant Incident Analysis, Group 1 = SIA1

Significant Incident Analysis, Group 2 = SIA2

Chapter 5 focuses on problem identification and presents an analysis of data from the initial phase of the research cycle. During this phase of the research, nurses reviewed critically their own approaches to pain care and the practice of colleagues. This chapter concludes with identification of possibilities for practice improvement and potential barriers to practice change.

In Chapters 6 to 8, I evaluate the outcomes of pain education and research participation and appraise the pain practice interventions nurses were involved in. These chapters trace both individual and collective initiatives and reflect the action and evaluation phases of the action research. However, the reality of practice meant that nurses were involved in a succession of cycles that acted as a basis for further problem identification, planning and action throughout the whole timeframe of the research inquiry.

Accounts of individual and collective interventions in Chapters 6 and 7 demonstrate how nurses selected and applied theoretical evidence to improve pain care within the context of their practice. Findings from these chapters support my key conclusions. Specifically, the inquiry tells us how nurses were

actually able to use pain knowledge to enhance their pain practice and provides insight into the conditions that promoted application of that pain knowledge. Thus, this inquiry also contributes to an understanding of the strategies nurses used to overcome some of the practice barriers they encountered following participation in a pain course and in action research inquiry.

In Chapter 8, I review the effects of nurses' engagement in action research. I argue that nurses' perspective of the value of action research and the merits of the processes they engaged in demonstrated the benefits of research participation for their pain practice.

Chapter 9 concludes the thesis and presents the substantive theory which has emerged from the research. I specify my substantive theory and identify the relationship to each of my research questions. I review the limitations of this study and argue that my findings have relevance for a wider knowledge base. I discuss how I have contributed to informed understandings about the transfer of pain knowledge into practice. I also argue that action research inquiry acts as a valid and effective approach for enhancing pain care in clinical practice. I conclude with the implications of my thesis for further work.

Chapter 2 Review of pain literature

2.1   INTRODUCTION

In the previous chapter I established the area under investigation and the reasons for choosing pain education as a focus for the study. In this chapter I review the substantive literature which helped to frame the inquiry and the research questions. Arguably, the presence of a literature review at the beginning of an action research inquiry almost contradicts the spirit of action research, in that the research should be informed by the emerging cycle of inquiry, rather than beginning with *a priori* view of the problem. However, Sandelowski (1993: 214) challenges the belief that the researcher assumes an atheoretical position and suspends prior understanding of a subject. She contends that this amounts to a misunderstanding of the role of theory in qualitative research, proposing that theory leads both to conceptualisation of the target phenomenon and the method of inquiry. The function of theory both for directing and driving the inquiry process is described by Sandelowski (1993) as follows;

> In inductively oriented qualitative projects, a priori conceptual commitment may also provide the impetus for the project, but they are usually commitments to an orientating or disciplinary world view and/ or to a way of inquiring about human nature. In these cases, theory functions to rationalise or justify a methodological approach vis a vis a target phenomenon, as opposed to serving as the theoretical basis for the phenomena itself. (p.216)

Based on Sandelowskis' description, the literature reviewed in this chapter contributed to a deeper understanding of the issues under investigation and served to drive the research process. Prior to starting this inquiry I was very

familiar with literature concerned with the effectiveness of pain care in practice and the challenges of implementing evidence based pain care. Furthermore I was interested in the impact that education participation had on nurses' practice and their professional development. The literature consistently highlighted enduring challenges concerned with the implementation of pain theory in practice. Reflecting Sandelowskis' (1993) perspective, exploration of that literature led me to consider action research as a methodology that presented an opportunity for exploring the impact of pain education on nurses' pain practice. Furthermore, the methodology introduced the possibility of nurse participants using their knowledge to influence pain care within their own practice environments.

The literature search for this chapter focused broadly on three areas of literature, including the theory practice gap in nursing, pain assessment and management practices and pain education. In the early planning phase of the research, nursing bibliographies were hand searched to locate literature mainly on pain education. Literature reviewed during this initial phase were published between 1990 -1999. When the research progressed, literature was updated by searching electronic databases including, British Nursing Index (BNI), Cumulative Index of Nursing and Allied Health Literature (CINAHL), Cochrane Library, Social Sciences Citation Index and Medline. Further articles were identified by reviewing specialist pain journals and reference lists identified through the articles located by this search process.

Search terms included, 'theory practice gap' 'pain' 'patient pain', 'pain

assessment' 'pain management', 'pain outcomes', 'pain course', 'pain education', 'pain programme' 'barriers to pain assessment' and 'barriers to pain management'. Searches were conducted using each of the search terms and in combination with each other. The studies included for review were limited to those published between 1995 and 2008. Earlier publications were considered of limited relevance due to developments in pain care interventions, nurses' roles and professional education. The results yielded articles and research reports that reflected pain care and pain education within UK, American and European health care settings.

2.2   ORGANISATION OF REVIEW

In the first part of the review (2.3) I provide a brief account of the theory-practice relationship in nursing. This presents evidence from literature that contends that a theory-practice gap persists in nursing, as nurses are challenged to transfer knowledge from research and education participation into their everyday practice. Section 2.4 establishes the key role of the nurse in assessing and managing pain. In section 2.5, research that examines the extent to which nurses utilise evidence based recommendations when assessing pain reveals that nurses fall short when translating evidence from pain knowledge into their practice. Explanations for difficulties with knowledge-practice transfer are then considered. In section 2.6, I review the consequences of pain education for qualified nurses and suggest that mostly programmes demonstrate positive outcomes in relation to acquisition of pain knowledge, yet it is not always clear how or indeed whether, knowledge acquired is subsequently used by nurses in practice. I suggest that education

programmes by themselves may not offer a consistently effective intervention that leads to more effective pain care. Section 2.7 provides some justification for this position and I propose that action research provides an alternative approach that may address some of the challenges for transferring pain knowledge into practice.

2.3 THE THEORY-PRACTICE RELATIONSHIP IN NURSING

Professional and policy developments over the last fifteen years have placed increasing demands on nurses to be more accountable for their actions and to base their nursing decisions on research evidence. This obligation is reinforced by Professional Codes. The Nursing Midwifery Council (NMC) Code of Professional Conduct: Standards for Conduct, Performance and Ethics (2004: 6.5) advise that nurses have;

> a responsibility to deliver care based on current evidence, best practice and, where applicable, validated research when it is available. (p.10)

At the same time, the research and evidence base available to nurses and other health care workers has meant that evidence based approaches to nursing practice have become firmly established in professional and policy agendas. For example, the advent of practice guidelines through National Service Frameworks, NHS Quality Improvement Scotland (QIS), SIGN, the Commission for Health Improvement (CHI), NICE and BPS, all aim to raise healthcare standards by providing evidence based guidelines for safe and effective clinical practice. With a renewed focus on the delivery of safe, evidenced based care, it has become ever more essential that nurses are able to access and transfer research findings into their nursing practice. This

position is underpinned by the assumption that theory and evidence must have application in the practice setting. It this premise which merits further consideration in this Chapter.

There is a substantial literature that examines the theory-practice relationship in nursing. Despite directives which advise nurses to access evidence and use this to inform their practice, a great deal of literature continues to focus on the failure of nurses to do so. Even with the recent advent of guidelines, nurses continue to experience some difficulty delivering evidenced based care (McCaffery and Ferrell 1997, Rycroft-Malone 2004, 2006). Sharp (2005: 2) makes the astute observation that evidence about good practice often fails to become good practice in the public sector and, as a result, suggests that some areas of the public sector are 'data rich but knowledge poor'. Despite the proliferation of knowledge and evidence that is available to nurses, the debate around the theory-practice gap continues to be a source of concern. Weissman and Dahl (1995: 292) offer the strongest critique of this situation, asserting that 'the greatest obstacle to improving pain cancer pain management in the US is the failure to apply existing knowledge about cancer pain into clinical practice'. It is therefore not surprising that theory transfer has also attracted considerable investigation to ascertain those factors which promote and limit application of theory in nursing practice.

The theory-practice gap is caused by the failure of the theoretical literature and research based literature to make significant inroads into practice (Nolan and Grant 1993). Clarifying explanations for this failure, Rycroft-Malone

(2006) attributes neglect of processes that are required to facilitate implementation of evidence into practice for the continued existence of the gap. In summary, difficulties of evidence implementation arise because evidence is not always seen as relevant to practice or practice is not receptive to, or organised to use, the evidence (Rycroft-Malone 2006).

Taking consideration of these explanations, I suggest that research and education represent an ideal theory which is intended to be transferred into the reality of practice. In the concluding sections of this chapter, following the review of literature, I question whether the theory-practice gap is entirely due to failure of practice to reflect theory. Rather, I argue that theory also emerges from practice and the gap may be better understood when examined from both perspectives. I suggest that theory may be incomplete and that dialogue between theory and practice can contribute to theoretical relevance. The following sections consider the scale of the theory-practice gap in relation to pain care and focus on the extent to which nurses use evidence based knowledge to inform aspects of their pain practice.

2.4   THE NURSES' ROLE IN ASSESSING AND MANAGING PAIN

Literature stresses the importance of multidisciplinary effort to assess and treat pain (Ferrell *et al*.1991, Brown and Richardson 2006). Yet, historically the key role of the physician in pain care has been highlighted (as diagnostician and prescriber) rather than the role of the nurse in the forefront of pain treatments. To an extent, this view of medical hegemony was legitimised in published pain reviews that have criticised inadequate

prescribing habits as well as recommending additional education for physicians to improve pain care for patients (Royal College of Surgeons of England and the College of Anaesthetists 1990, Smith *et al.* 1999). McCaffery's (1979) early position on pain responsibility explained the complementary though distinct roles nurses and physicians played in pain management. She suggested that the physicians adopt a physical approach to the patient, exploring the patient's complaint and arriving at a diagnosis. In contrast she advised that the nurse understand patient pain in a holistic sense and this placed the nurse in a unique role, which carried both power and responsibility with respect to pain treatment (McCaffery 1979).

While McCafferys' perspective mainly reflected the role of nurses in pain care, greater responsibility and accountability has further extended the nurses' role in pain assessment and management within the past ten years. For instance, in referring to peri-operative pain care, Jones (1998) argues for greater input from nurses, including responsibility for pain related care decisions that were traditionally medically determined. He claims this would result in more fluent and consistent approaches to pain care for the surgical patient. With reference to the development of specialist nurses, The BPS (2003) recommends strengthening the role of acute and chronic pain nurses to optimise a seamless care pathway across the various health care settings where pain care is delivered. Additionally, the development of Patient Group Directions (PGD) and non-medical drug prescribing powers for nurses have provided further opportunities for nurses to extend their scope of pain care practice and increase their responsibility towards the patient in pain (Scottish

Government 2006a)[1]. However, despite role developments and endorsements supporting enhanced accountability for nurses in relation to pain care, Twycross (2001) notes that nurses may still not view pain as their responsibility since doctors (predominantly) continue to be the main prescribers.

Pain literature and clinical guidelines increasingly recommend that pain care should be part of a multidisciplinary effort and nurses are identified as central figures within the multidisciplinary team, who play a key role in the assessment and management of pain (Carrol and Bowsher 1993, McCaffery and Beebe 1994, Clarke *et al.* 1996, Nash *et al.* 1999) and are key members of pain management teams, where they exist (BPS 2003). Nurses spend most time with patients, determine the administration of pain relief, carry out many pain relieving interventions, are most likely to evaluate the effectiveness of interventions as well as initiate any changes in pain care (McCaffery 1979, McCaffery and Ferrell 1997, Schafheutle *et al.* 2001, Twycross 2001, Luo-Ping *et al*. 2004, McMillan *et al.* 2005, Carr 2007). Patients also regard nurses as central to their pain care, a perspective that was reinforced by findings from Webb and Hope (1995) who interviewed 103 patients and found that patients ranked pain relief as the second most important nursing activity .

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[1]***Nurse Independent Prescribers:*** *Nurses and midwives who are on the relevant parts of the Nursing and Midwifery Council (NMC) register may train to prescribe any medicine for any medical condition within their competence including some controlled drugs.* (*http://www.scotland.gov.uk/Publications/2006/08/23133351/26*)

Patient Group Direction (PGD): *A Patient Group Direction is a written instruction for the supply or administration of named medicines to specific groups of patients who may not be individually identified before presenting for treatment. It is not a form of prescribing.* (*http://www.scotland.gov.uk/Publications/2006/08/23133351/26*)

However, although the key position of nurses in pain care is constantly emphasised in literature, the reality is not entirely reflected in research outcomes. Limitations caused by time constraints and role restrictions can impede the nurses' role as key figures in pain care. For example, nurses in a study by Tapp and Kropp (2005) reported several barriers to the delivery of pain management that included inadequate staffing levels, too many acutely ill patients and specific times of the day when nurses were too busy to provide pain care.Davies and McVicar (2000a) further confirm the evidence that nurses may not be fulfilling a lead role in pain care, contending that nurses have a key role for assessment and evaluation but are frequently not responsible for planning pain interventions.

This section has established that nurses are often regarded as key providers of pain care and increasingly have access to evidence based findings to help them deliver more effective, informed pain care. Yet research suggests that nurses are not completely utilising their position nor taking full advantage of the information that is available to them. Despite the existence of an extensive body of pain knowledge, numerous studies over the past twenty years continue to suggest that nurses are not wholly reflecting evidence of good pain care in their practice (Clark *et al.* 1996, McCaffery and Ferrell 1997, Brockopp *et al.* 1998, Pasero and McCaffery 2004). Even within well-researched fields of pain practice, problems have emerged whereby areas of good practice that have received wide recognition and acceptance, both by

researchers and practitioners, continue to pose problems of practice application for nurses.

2.5   TRANSFERRING PAIN THEORY INTO PRACTICE

The challenge of implementing evidence based practice in pain care is illuminated by drawing on three examples from the pain literature where evidence that informs effective pain care practice is well developed and widely accepted, yet is not always reflected in the reality of practice.

2.5.1   Patients' self report

The first example considers a fundamental aspect of pain care whereby nurses are advised to ask patients about their pain status. McCaffery (1983: 95) describes pain as 'whatever the experiencing person says it is, existing whenever he says it does'.   Although it is accepted that accurate pain assessment is based on a variety of valid and reliable measures, use of self-report measures is acknowledged as one of the best descriptions of the character of pain (McCaffery and Ferrell 1997, Carr and Mann 2000, Wells *et al.* 2001, Solomon 2001, Bryant 2007) and pain control will only be achieved when the patients' self report is then completely accepted and acted upon. Yet, despite recommendations that nurses ask patients about their pain status, studies consistently find that this is not normally what happens. For example, Schafheutle *et al.* (2001) surveyed 180 Registered nurses in 14 UK hospitals and found that the majority of nurses did not follow recommendations for asking patients about their pain. This is corroborated by

similar findings reported in earlier studies (McCaffery and Ferrell 1997, Nash *et al.* 1999).

Failure to follow recommendations to ascertain patients' self-report of pain is not due to disagreement with the principle; rather it is attributed to nurses' beliefs and reported patient barriers. Evidence that nurses give prominence to their own perceptions rather than direct responses from patients is well documented (Clarke *et al.* 1996, Schafheutle *et al.* 2001, Holley *et al.* 2005). The resulting disagreement between the nurse and patient regarding pain intensity has been described as one of the most significant predictors of inadequate pain control (Cleeland *et al.* 1994). This problem was starkly illustrated in a study by Watt-Watson *et al.* (2001) which revealed that almost one third of 94 nurses surveyed, disagreed with patients' report of pain 25% of the time and 40% believed their patients overstated their pain 25% of the time. Similarly De Rond *et al.* (1999) found that only 36.1% of nurses surveyed reported that the pain score given by the patient did not differ from their own expectations of pain score. Therefore, despite widespread agreement that patients are the most accurate verifiers of their own pain, research confirms how nurses' beliefs and actions often fail to act on this principle in practice.

2.5.2 Pain measurement tools

The second example occurs when considering the evidence for systematic assessment and documentation of pain ratings and pain descriptors. The complex nature of pain can lead to subjective and inaccurate estimation of

suffering. Therefore, pain measurement (normally rated through the use of pain measurement tools) has become recognised as an important part of pain assessment. Recommendations to use pain tools are widely endorsed (Harrison 1991, Carr and Thomas 1997, De Rond *et al.* 1999, Berdine 2002). As in self report, there is little dispute among practitioners about the value of pain tools, yet nurses have not demonstrated consistent use of pain tools for assessing patients' pain in practice. Whilst there is widespread agreement about the value of pain tools, it worth noting the contradictory evidence reported from a review of twenty research studies in the US. Gordon *et al.* (2002) found that documentation of pain ratings did not inevitably guarantee pain relief for patients.

The discrepancy between acceptance of the principles of pain assessment tools and actual demonstration of their use in practice is evident in a number of studies. Nash *et al.* (1999) describe how nurses recognised the importance of using subjective pain scores, yet in practice gave precedence to physical cues from the patient. These findings are congruent with other research studies which confirm limited use of pain assessment tools (Clarke *et al.* 1996, Brockopp *et al.* 1998, Schafheutle *et al.* 2001). Furthermore, Francke *et al.* (1997a) identified a strong correlation between nurses' attitudes to the use of pain tools and patients' responses to pain scores. When nurses in their study were unfamiliar with pain scales or were doubtful about their worth, their patients did not take pain scores seriously. Therefore, one potential consequence of nurses' negative attitudes to pain assessment can be lack of faith in the efficacy of pain tools by the patients.

However, not all research studies about the use of pain tools demonstrate such negative outcomes. Reporting on the feasibility of daily pain assessment, De Rond *et al.* (1999) conclude that nurses in their study had a positive attitude to the use of tools following education input and the majority of nurses implemented twice daily pain assessment in their practice. McCaffery and Ferrell (1997) also optimistically report on research findings when they compared the outcomes of surveys on practicing nurses in the US in 1988-1990 and then again in 1995. The authors note a greater willingness by nurses to rate patients' pain scores. They suggest that this may in part be due to improvements in nursing knowledge.

2.5.3 Pain documentation

The third example where inconsistency persists between theory and practice concerns the accuracy of recorded pain documentation. Correct pain documentation is accepted as an indicator of good pain practice and is considered essential for evidence of individualised care, both from professional and legal perspectives. Both Camp-Sorrell and O'Sullivan (1991) and Carr and Thomas (1997) are unequivocal in their observation that pain actions which were not documented were legally considered as not performed. Documentation of pain ratings, interventions and outcomes, provides visible patient information (Pasero and McCaffery 1997). Furthermore, by recording pain assessment scores and pain relieving interventions and ensuring visibility of this information, other members of the health care team can make a more effective contribution to the patients' pain problem (Camp-Sorrell and O'Sullivan 1991, Carr and Mann 2000).

However, despite recommendations, studies report poor adherence to recommended documentation practices (Clark *et al.* 1996, Briggs 1998, De Rond *et al.* 2000b, Luo-Ping *et al.* 2004). In a review of 384 cancer patient charts, just over 20% of patients had pain intensity recorded by nurses (Luo-Ping *et al.* 2004). Similarly, in a descriptive study conducted by Briggs (1998), 65 patients were interviewed post-operatively about their pain experiences, with worst and current pain scores recorded. When comparisons were made to nursing documentation, the findings indicated that individual assessment of pain and interventions to help patients cope with their pain were poorly documented.

Targeted attempts to improve nursing documentation practices have met with mixed success. Camp-Sorrell and O'Sullivan (1991) designed a pain course specifically to improve pain documentation practice yet found that no significant changes had occurred in practice. Similarly, following education intervention and direction about the use of documentation, Carr and Thomas (1997) noted that evaluation of pain had improved following a ward based education programme but found that overall documentation was still inadequately performed. However, more recent studies report sustained evidence of improved pain documentation following targeted education participation (Dalton *et al.* 1999, De Rond *et al.* 2000a).

Referring to the three examples from practice reviewed in this section, the evidence from research about the use of evidenced based pain care in

practice is compelling but reveals that pain assessment practices are often unsatisfactory and, significantly, do not always reflect recommended practice. There is discord between nurses' and patients' reports of pain and documentation of patients' pain records are inadequate and incomplete. Similar discrepancies exist when reviewing research about many aspects of pain care. For example, research reveals that problems persist with prescribing, appropriate and timely administration of pain medication and the evaluation of treatments. Importantly, there is increasing recognition that patient safety can be jeopardised if nurses and other healthcare professionals fail to assess and manage pain effectively (Muir 2006). For example, alterations in the outcomes of pain assessment may contribute to the detection of complications and a change in the patients' condition (Muir 2006). Furthermore, failure to detect and treat pain may compromise patient comfort and recovery, leading to adverse physiological and psychological consequences for the patient. Significantly, strategies being suggested for improving pain care, frame pain relief as an ethical issue, which encompasses promotion of pain as legal right (Brennan *et al.* 2007).

Strategies to overcome failures in the delivery of pain care have gained prominence in health care settings over the past ten years. The renewed emphasis on pain assessment by referring to it as the fifth vital sign has emphasised the need to regularly obtain and document pain ratings and other relevant pain information. In the UK, the Chronic Pain Coalition (2007) have produced a five point pain manifesto which specify key pain assessment strategies, including, assessment of pain at the earliest possible opportunity

and on a regular basis, with the same priority as given to the other four vital signs. Additionally, deficits in the provision of pain care are increasingly being associated with patient safety issues particularly within Canada and the US. As a result, efforts to evaluate and treat pain are being incorporated into published standards of care.

The Joint Commission on the Accreditation of Healthcare Organisations (JCAHO) recommended the integration of pain assessment and management principles into the standards that JCAHO uses to accredit health care facilities in the US (Berry and Dahl 2000). In summary, the Joint Commission's 2001 pain management standards state that every patient has a right to have his or her pain assessed and treated (Joint Commission 2008). Although currently, there are no similar regulatory bodies within the UK that monitor compliance to pain standards, existing clinical standards and guidelines do incorporate pain guidance and guide health care professionals to incorporate relevant pain management strategies into their clinical practice.

However, despite efforts to incorporate pain care into published standards of care, disparity persists between recommended areas of good pain practice and evidence of that practice being realised. Even although nurses themselves normally agree with guidelines, they are not consistently willing or able to implement these in practice. It is therefore not surprising that barriers which foster this theory-practice gap have been extensively reviewed and literature provides a variety of explanations for inadequate pain care.

2.5.4 Explanations for theory-practice gap

The previous section established that the blame for the theory-practice gap in pain care has been attributed to: idealistic, esoteric research practices; complexities of clinical practice; and nurses' knowledge deficit. These complex, inter-related obstacles are briefly considered in this chapter section.

The perception that research is considered an esoteric, academic activity, baring little relationship to practice is a view that has been proposed by both clinicians and researchers (Webb 1989). This is a worrying perspective, particularly as the prime aim of nursing research is to influence or improve nursing practice (Allcock 1996, Jordan 2000). The disparity between nursing research and practice has been attributed to the view that these are separate, unconnected activities, with the main beneficiaries of research knowledge being the academic community rather than the practitioners. Ousey and Gallagher (2007: 200) refer to the actual physical separation of the two activities, describing research as occurring in an external world from that occupied by students, who practice in their internal world. Elden and Levin (1991: 131) go as far as to suggest that it was only the researcher or those who extracted meanings from research reports (usually other researchers) that learnt, not the subjects of the research. Elliot (1991) is mainly critical that this distancing of persons, i.e. researchers and participants, along with the passive role of participants in conventional research activity reinforces the theory-practice gap.

The consequences of this separation for pain care is highlighted by McCaffery and Ferrell (1997) who describe how knowledge of strategies to assess and manage pain have been available for twenty years; yet this knowledge is not being used and pain continues to be managed ineffectively. This problem was demonstrated in a US study, by Brockopp *et al.* (1998) who found that service providers were not aware of research guidelines, despite the proliferation of information available on pain management. Commenting on the challenges for pain care in the 21st Century, Seers *et al.* (2006a) maintain that despite the existence of high quality evidence patients continue to experience pain. The impact of good pain research is therefore limited if it cannot be accessed or applied by nurses who are in the forefront of pain care delivery, resulting in less favourable outcomes for patients in pain.

The effect of practice and organisational culture on nurses' ability to manage pain care effectively has attracted considerable attention in literature. Referring to pain care, Fagerhaugh and Strauss (1977) propose that predicted improvements in pain care would be difficult to realise unless organisational factors relating to pain management were considered. This perspective is still relevant when considering the practice obstacles that impede the delivery of effective pain care practice. A body of research continues to report on complex organisational systems that hamper the delivery of effective pain care (Alley 2001, Stenner and Courtney 2008). These are attributed to a range of organisational obstacles, misplaced beliefs and perceived negative attitudes of health care staff and patients. Therefore, the failure of health care settings to incorporate and encourage the use of evidence based pain care in

practice are complex, but can partly be attributed to practical and organisational issues.

The premise that organisational factors influence how patients receive pain care suggests that the organisational structures and processes need to be regulated to ensure patients are not exposed to ineffective pain care practices. Responding to this challenge Ferrel *et al.* (1995) propose that institutional structures need to include policies requiring that pain relief be expected and monitored in order for pain practice to be improved. In an exploratory study investigating nurse prescribers support systems for acute and chronic pain, Stenner and Courtney (2008) found that clear local policies and guidance on prescribing supported nurses' prescribing practices. Interestingly, they also note that policies could also restrict practice if they were too stringent. Making similar observations, Carr (2007) also suggests that organisations may inadvertently hinder aspects of effective pain care if both hospital and national policies influence access to pain relieving resources. Thus, evidence suggests that policies may help to facilitate adherence to pain care standards but a degree of flexibility to make informed decisions based on the patient situation and sound clinical judgments also contributes to effective pain care.

Despite claims that nurses are usually closest to the patient and are therefore in the best position to provide effective pain care, nurses have indicated how lack of time prohibits them from carrying out satisfactory pain care (Francke *et al.* 1997b). Reported time constraints have been further exacerbated by staff

shortages and time consuming practices related to checking and administration of analgesia (Schafheutle *et al.* 2001, Carr 2002). It is not only nurses who have highlighted this problem; patients have also blamed time constraints for ineffective pain care practices. For example, in a survey of post-operative patients, Carr and Thomas (1997) found that patients' reluctance to ask for pain relief was due to the perceived 'busy-ness' of staff.

Another commonly reported problem nurses have identified in research is the attitudes and misconceptions to pain care held by practice colleagues. For example, nurses in studies conducted by Paes (1997) and Nash *et al.* (1999) blamed inappropriate staff attitudes and lack of peer support for poor pain care. Similarly, participants in a study by Jordan *et al.* (1999) specified limited support from colleagues, nurse managers and medical practitioners. Nurses who participated in studies that have attempted to include participants in practice change have also encountered opposition (Dalton *et al.* 1996). More recent studies continue to suggest that staff do not want to change established pain care practices (Ousey and Gallagher 2007). It is also notable that poor collaboration with medical staff and inappropriate medical prescribing continue to be highlighted by nurses as problematic (Brockopp *et al.* 1998, Nash *et al.* 1999, Dalton *et al.* 1999, Schafheutle *et al.* 2001, Wells *et al.* 2001, van Niekerk and Martin 2002). These findings are consistent with difficulties identified with evidence base application, which include lack of cohesive decision making and pressure of work (Effective Health Care 1999).

Inaccurate beliefs about a range of pain management approaches are also well documented. For example, exaggerated risks of opioid addiction and

potential tolerance continue to be reported in literature. Extensive research demonstrates the chances of opioid addiction occurring is less than 1%, even after long term use (McCaffery and Ferrell 1999). Yet inaccurate beliefs about analgesia, particularly opiates, have engendered suspicions of drug addiction or analgesia misuse (Clarke *et al.* 1996, Nash *et al.* 1999, Schafheutle *et al.* 2001, McCaffery 2002). Additionally, fear of addiction and tolerance is identified as a motive for sparing the use of analgesics (Brockopp *et al.* 1998, Wells *et al.* 2001). Nurses also blame reluctance of patients to take opiates as a cause of inadequate pain control (Clarke *et al.* 1996, Howell *et al.* 2000). A study by Francke *et al.* (1997a) illustrated the reluctance of a group of patients to collaborate in their care. Nurses in their study maintained that older patients impeded their attempts to use pain assessment tools or non-pharmacological interventions, preferring to opt for a 'pill' rather than participate in other pain relieving strategies.

Nurses have identified a host of other patient related barriers which they regard as significant obstacles to implementation of evidence based pain practice. For example, nurses have attributed patients' behaviours as an impediment for assessing pain. Lack of demonstrable behavioural indicators, such as grimacing or guarding (Schafheutle *et al.* 2001, Luo-Ping *et al.* 2004), and patient stoicism (Clarke *et al.* 1996, Schafheutle *et al.* 2001) have been reported to interfere with pain assessment and management. Patients who are unable to verbally describe pain, or are asleep or unconscious, have been identified by nurses as making assessment difficult (Schafheutle *et al.* 2001, Carr 2007). This is despite evidence that demonstrates poor association

between sleep and freedom from pain (McCaffery and Pasero 1999). Nurses have also attributed absence of physiological indicators, such as hypertension, to lack of pain (Luo-Ping *et al.* 2004). However, again evidence demonstrates that vital signs are not reliable indicators of pain, as even in severe pain blood pressure will return to previous recordings in a short time (McCaffery and Pasero 1999).

Finally, numerous authors have confirmed that inadequate pain knowledge persists as the key impediment to effective pain assessment and management (Camp-Sorrell and O'Sullivan 1991, Clarke *et al.* 1996, McCaffery and Ferrell 1997, Grant *et al.* 1999, De Rond *et al.* 2000a, Bauwens *et al.* 2001, Carr 2002, Seers *et al.* 2006a). Despite the proliferation of pain knowledge, inadequate nursing knowledge about pain care continues to be reported. In an extensive US study, McCaffery and Robinson (2002) received 3,282 questionaires completed by nurses about pain management. The survey of key concepts essential to safe and effective analgesia demonstrated that many respondents lacked knowledge of basic pain management. Only 42.2% of respondents were able to achieve a passing grade by successfully answering at least 80% of questions. The authors conclude that nurses continue to demonstrate lack of basic knowledge about aspects of pain care.

This section has briefly reviewed examples of enduring barriers to the delivery of effective pain care that have been reported in literature for the past thirty years. While the antecedents for poor pain practices are varied, they all

reflect the challenges and obstacles nurses face when implementing recommendations for effective pain care into their practice. Examples drawn from pain research illustrate discrepancies between recommended practice and nurses' approach to patient self-report of pain, use of pain scores and pain documentation. Organisational barriers, negative attitudes and beliefs towards pain care, and lack of knowledge have been identified as key impediments to effective pain assessment and management practices. An approach which helps to illuminate understanding of the antecedents to poor pain practice can be found in theories which encompass systems thinking. Systems thinking is described by Trochim *et al*. (2006:539) 'as a general conceptual orientation concerned with the inter-relationship between parts and their relationship to a functioning whole'. Simply stated, according to systems thinking a system is an organised collection of parts (or subsystems) that need to work together to accomplish an overall goal. In order to solve poor pain care practices, a systems approach would require a review of all the barriers to pain care and their relationship with each other. The observation that the majority of medical errors are system-based serves to highlight the potential value of this approach to address patient safety issues (Bleakley (2006). A systems approach requires that resolutions can put in place which work across all areas of the organisation rather than focusing on problems or barriers in isolation from each other.

Despite the various complexities which influence the delivery of effective pain care, pain education for nurses is repeatedly presented as one solution which can improve pain care. We are reminded by Wells *et al.* (2001) that however

effective standards are, their transfer into practice has to be supported by continuing education and professional development. The premise that participation in education will improve pain knowledge and have a corresponding effect on nursing practice and patient satisfaction is examined in the following section.

2.6   OUTCOMES OF PAIN EDUCATION PARTICIPATION

In this section, examples of research which have sought to examine the effectiveness of pain course participation on nurses' knowledge, attitudes and practice are reviewed and evaluated. Examples will be drawn mainly from studies undertaken within the past fifteen years, which help to illustrate the outcomes of pain education. The intention is not to review all published studies but to provide an overview of research findings that will help to establish the degree of impact post-registration pain course participation has on nurses' pain knowledge and practice. This review is presented as follows: I provide an overview of the pain courses and examine the methods researchers used to obtain data. I have then divided the courses into two categories. The first category examines the outcomes of pain courses that solely used education interventions in the form of a pain class or course. The second category examines the outcomes of pain courses that included an additional practice intervention that encouraged nurses to implement a pain related innovation in their practice.

2.6.1 Overview of pain courses

The content of pain courses examined for this review was varied. However, there were a significant number of studies that focused on cancer and palliative pain, or included nurses who worked in this clinical speciality. Consequently, studies from these areas are well represented (Weissman and Dahl 1995, Dalton *et al.* 1996, Howell *et al.* 2000, Luo-Ping *et al.* 2004, McMillan *et al.* 2005, Patiraki *et al.* 2006). A sample of courses concentrated on approaches to pain assessment and the use of pain tools (Harmer and Davies 1998, De Rond *et al.* 1999, Simons 2002, Luo-Ping *et al.* 2004). Other courses had a wider pain focus and included education input regarding a variety of pain related topics concerned with assessment and management of pain (Brockopp *et al.* 1998, Camp-Sorrell and O'Sullivan 1991, Francke *et al.* 1996a, 1997a, 1997b, Dalton *et al.* 1999, Grant *et al.* 1999, Howell *et al.* 2000, Simons 2002).

When information was provided in research reports about the duration of the courses, they ranged from 45 minutes (Camp-Sorrell and O'Sullivan 1991) to longer courses comprising 32 hours (McMillan *et al.* 2005) and six study days over a six week period (Dalton *et al.* 1996). Two courses were of three days duration (Brockopp *et al.* 1998, Grant *et al.* 1999). The majority of courses were described as study days (Weissman and Dahl 1995, Simons 2002), or workshops and averaged about eight to ten hours of education input (Howell *et al.* 2000, Luo-Ping *et al.* 2004). Ward based education programmes were composed of shorter hourly sessions spaced over specified timeframes (De Rond *et al.* 1999). Shorter courses are the most prevalent in research

reports, an observation that is consistent with findings from Francke *et al.* (1996b) who reviewed twelve studies on the effects of pain programmes and found that the majority of pain programmes were less than eight hours in duration.

It is noteworthy that studies which examined the effects of education programmes have suggested that one continuing education class is not sufficient to have an enduring effect (Dahlman *et al.* 1999). Findings from research mainly conclude that a correlation exists between length of education input and degree of impact (McMillan *et al.* 2005, Young *et al.* 2006, Michaels *et al.* 2007). However, Weissman and Dahl (1995) were confident that attendance at a one-day conference significantly improved the pain knowledge of participants in their study. While Camp-Sorrell and O'Sullivan (1991) acknowledged that the 45 minutes of theory offered to their participants would be deemed inadequate to have much impact, they make the valid point that educationalists routinely anticipate students will benefit from this type of input. The authors suggest that without such an assumption there would be an ongoing requirement for course updates.

The number of nurses who participated in the pain courses varied significantly, from 10 nurses (Simons 2002), to the 2738 participants who took part in a large scale multi-centre study conducted in the UK by Harmer and Davies (1998). Most of the participants in the studies reviewed were nurses, although some researchers included multi-disciplinary groups in their education courses (Weissman and Dahl 1995, Brockopp *et al.* 1998, Dalton *et*

al. 1999). None of the studies reviewed indicated award of academic credit on successful completion of the course.

2.6.2 Research methods

Research studies that evaluated the impact of the pain courses commonly collected quantitative data to ascertain if predetermined outcomes had occurred because of specific education interventions. Many researchers used approaches based on questionnaire surveys and pre- and post-test designs, which examined the effect of education intervention on participants' knowledge and attitudes (Weissman and Dahl 1995, Dalton *et al.* 1996, Francke *et al.* 1997a, Grant *et al.* 1999, De Rond *et al.* 2000a, Howell *et al.* 2000, Luo-Ping *et al.* 2004, McMillan *et al.* 2005, Patiraki *et al.* 2006).

The use of experimental designs using control and experimental groups also enabled comparisons between groups of nurses who had education input and groups that did not (Sofaer 1984, Camp-Sorrell and O' Sullivan 1991, Francke *et al.* 1997a, Patiraki *et al.* 2006). Post-course evaluations and qualitative interviews with participants were used to ascertain changes in pain management activities and presence of barriers to pain practices (Brockopp *et al.* 1998, Simons 2002). In some studies, audit of patient notes was used to establish changes in care delivery or documentation practices (Camp-Sorrell and O'Sullivan 1991, Dalton *et al.* 1996, Dalton *et al.* 1999, Howell *et al.* 2000). Patients were also surveyed pre- and post-course intervention to establish whether changes in delivery of pain care post-course impacted on

the patient experience (Harmer and Davies 1998, Dalton *et al.* 1999, De Rond *et al.* 1999).

Some studies confined their data collection to immediate post-course (McMillan *et al.* 2005, Patiraki *et al*. 2006). Others conducted follow up surveys to establish longevity of course benefits and followed up effects of participation for a longer period of time. This ranged from six months (Francke *et al*. 1997a, Luo-Ping *et al.* 2004) to twelve months post-course (Weissman and Dahl 1995, Dalton *et al.* 1996, Brockopp *et al.* 1998).

In the following section, I review a sample of pain courses which solely used education interventions in the form of a pain class or course.

2.6.3 Education courses only

Examples of studies that used pre- and post-test designs to evaluate changes in knowledge and attitudes following pain course participation reported favourable outcomes overall. For example, McMillan *et al.* (2005) reviewed the impact on pain resource nurses (n=18) following an intensive 32-hour pain programme. Post-course tests, using a variety of validated measurement instruments, demonstrated significant improvements in pain knowledge, attitudes and management, leading the authors to suggest that longer pain programmes were successful. Other studies have reported similar successful outcomes (Dalton *et al.* 1996, Grant *et al.* 1999, De Rond *et al.* 2000a, De Rond *et al.* 2001).

A sample of studies evaluated the effects of pain course participation on participants' knowledge, skills and attitudes using experimental designs by means of control (non-participative) and experimental (participative) groups. Pre- and post-course tests or questionnaires were used to collect data to establish impact of education participation. Reporting on the results from a pre- and post-test pain questionnaire, Francke *et al.* (1996a, 1997a) describe mixed outcomes when they reviewed the knowledge and skills nurses developed because of pain course participation (n=106). For example, they found no difference between control and experimental groups in relation to the number of nurses who made use of direct patient questioning and no differences on pain intensity ratings (Francke *et al.* 1997a). However, the experimental group of nurses who participated in the pain programme did demonstrate a significant improvement in activity relevant to pain histories (Francke *at al.* 1997a) and in the quality of physical and relaxation interventions (Francke *et al.* 1996a).

Using a similar pre- and post-test design, Luo-Ping *et al.* (2004) conducted a quasi-experimental study to evaluate the effects of an education programme on nurses' practice of cancer pain assessment and their acceptance of patients' pain reports (n=645). The differences between pre-course and post-course questionnaires completed by nurses demonstrated a statistically significant yet moderate change in knowledge and attitudes towards pain assessment and acceptance of patients' reports of pain. Similar outcomes were found by Patiraki *et al.* (2006), who conducted a randomised controlled study exploring the effectiveness of an educational intervention on nurses'

attitudes and knowledge about pain management. A sample of 112 nurses was randomised into control and intervention groups and significant improvements were found in the knowledge of the intervention group in knowledge test items following education intervention.

Studies that measured the impact of pain education on aspects of practice mostly report positive benefits of participation. Typically, this group of studies assessed educational impact by reviewing patients' charts or asking patients about the outcomes of their pain care. One of the earliest studies by Sofaer (1984) reviewed patient outcomes as a measure. Comparisons were made between a control group, who included patients cared for by nurses who did not participate in a ward based education programme, and an experimental group, comprising patients who were cared for by nurses who participated in the programme. Sofaer (1984) demonstrated differences between patient groups which could be attributed to the beneficial effects of the education programme. However, significantly she found that the effect was not sustained following a time lapse.

Other studies used multiple methods to establish effects of pain education and as a result yielded more detailed information about course impacts. Dalton *et al.* (1996) designed a six day education programme to increase knowledge about pain management. Utilising a quasi-experimental time-series design they measured the effectiveness of a six day programme in changing nurses' knowledge, attitudes and beliefs towards pain care. A review of data from nurses and from patients' charts prior to the programme

and at intervals post-course, demonstrated gradual changes in pain assessments and treatment practices. Importantly, the authors concluded that although change in behaviour was slow, education did make a difference to practice. Significantly, some nurses also extended their roles; 18 out of the 29 participants gained formal and informal promotions to consultation roles (Dalton *et al.* 1996). Dalton *et al.* (1999) also reported positive practice outcomes following participation in a multi-disciplinary pain education programme. Favourable outcomes included improved interpretation and increased use of acute pain management guidelines. An interesting phase of the education programme asked participants to review aspects of their institutional policies that presented barriers at the outset of the education programme. However, the authors do not elaborate on the purpose or effects of this activity.

Simons (2002) provides one of the few examples of qualitative investigation into pain education. She conducted an action research study related to pain management in children. Focus groups were used to obtain information about nurses' perceptions, feelings and attitudes to pain management. A study day was developed that focused on topics raised by nurses during the focus groups. Subsequent education sessions were evaluated by nurses using a Likert scale and five semi-structured interviews were conducted two months after the study to ascertain effects of participation. Nurses who participated in these reported improved pain knowledge and increased confidence managing pain post-course. Like the study by Dalton *et al.* (1999), Simons (2002)

included participants in a review of pain practice but used data to inform the content for a study day.

It is evident that studies which evaluated the effects of pain education participation mainly reported positive outcomes on nurses' knowledge and attitudes to pain care. There are few reported exceptions to this, although Wallace *et al.* (1995) describe rather surprising findings that attendance at classes on pain management was not of reported benefit. The existence of conclusive evidence that educating professionals about pain will improve their knowledge is widely acknowledged (Dalton *et al.* 1999). Furthermore, there is some evidence that there will also be an impact on pain practice, although there is limited confirmation that practice change is sustained. I would also argue that a gap exists in the literature about the way nurses transfer their pain knowledge into practice. I review these limitations in later sections of this chapter.

2.6.4 Education plus practice intervention

In this section, I review a sample of research studies that have evaluated the effects of pain course participation and encouraged participants to apply principles from pain education in their practice.

In a number of the studies reviewed, participants were given pain tools to use with their patients and interventions were implemented with mixed results. Camp-Sorrell and O'Sullivan (1991) designed a pain course for oncology nurses that emphasised documentation of pain assessment. The study

evaluated actions of a control group who attended a class on pain assessment and an experimental group who attended similar classes and additionally were provided with a McGill Pain Questionnaire (MPQ) to use in practice. A third group of nurses did not participate in any education activity. Following education participation, the effectiveness of the intervention was measured by auditing patients' notes at intervals up to two months post course to evaluate documentation practices. Although there were some improvements in documentation across the three groups, these were not considered to be significant.

De Rond *et al.* (1999) used a similar approach to increase the occurrence of pain assessment. After attending a Pain Monitoring Programme (PNP), nurses (n=226) were asked to implement daily pain assessment, and scores were charted on patients' vital signs sheet. One month after implementation the patients were interviewed (n=345), pain documentation was collected from nursing notes and nurses were asked to estimate pain ratings. Authors concluded the successful implementation of daily pain assessment combined with education resulted in favourable outcomes. In a later study De Rond *et al.* (2001a) also reported satisfactory nurse compliance with daily pain assessment but did note a gradual decrease in assessment activity after seven months.

Howell *et al.* (2000) reported a further positive outcome following the participation of 53 Registered Nurses in an eight-hour in-service education course. A key aim of the course was development of positive beliefs and

attitudes to pain. Additionally, nurses were given a pain assessment tool and a pain flow sheet that they were encouraged to use post-course. Pre-course, nurses completed a knowledge and attitude scale which was subsequently repeated at three months post-course. Immediately post-course there was a statistical improvement in knowledge and attitude scores but these reverted to pre-course levels at three months. However, two months after the workshop 15 nurses had implemented the pain charts in their practice. Unfortunately, no information was provided by the authors about subsequent follow-up.

Harmer and Davies (1998) reported on an extensive study involving 2738 patients in 15 hospitals in the UK. The research consisted of a programme of education for staff regarding pain management, the introduction of formal pain assessment and an algorithm for managing intramuscular opioid analgesia. In each participating hospital, an initial patient survey was undertaken with 100 post-operative patients to record details of pain management, pain scores, pain expectations, side-effects and post-operative complications. Four to six months following the interventions, repeat surveys were undertaken with a similar number of patients to the initial survey. The outcomes of the intervention were positive in that patients received improved analgesia, reported greater satisfaction with their management and had a reduction in post-operative complications such as nausea and vomiting. Findings by Harmer and Davies (1998) were mainly similar to those demonstrated by De Rond *et al.* (1999) and Howell *et al.* (2000) as all three studies demonstrated positive practice interventions. However, the outcomes in Harmer and Davies' study indicated a more sustained practice impact.

There are examples of three pain education studies that took an alternative approach to practice intervention, by asking participants to select their own practice interventions post-course. Brockopp *et al.* (1998) recruited physicians and nurses from six US institutions who had expressed a willingness to participate in a project designed to improve pain management (n=12). Following three seminar days, participants developed action plans to change pain practices in their respective institutions. Typical interventions included instigation of objective pain assessments and development of pain documentation policies. Project teams visited each site to support implementation of action plans and funding of $1000 was available for each institution to implement their plans. Data obtained from the questionnaires about seminar preparation was positive. However, interviews yielded a number of problems when participants attempted to instigate pain practice changes in their respective institutions. They encountered barriers ranging from lack of knowledge and misconception by colleagues about a range of pain care issues, to non-facilitative attitudes from their institutions.

Weissman and Dahl (1995) recruited 196 doctors, nurses and pharmacists to their Role Model Program (RMP). Participants in their study had both education and clinical roles. Like Brockopp *et al.* (1998) grant funding was made available. At the conclusion of a one-day course, each team developed an action plan including a detailed list of plans for future educational and clinical activities in their practice settings. Data collected twelve months post workshop demonstrated that 56 out of the 87 teams (64%) had either fully or partly met their action plan. This was an encouraging result as a total of 227

projects were completed, including instigation of in-service education and development of pain assessment and treatment protocols. Positive outcomes were also reported in a later study by Weissman *et al.* (1997) when 13 out of the 32 health care facilities recruited to their study met or exceeded the action plans they had devised.

2.6.5 Outcomes of pain course participation

It is difficult to make comparisons between the research studies examined in this review, because of the variability in pain courses, the aims, type and content of courses and the research methods used. However, course outcomes usually fell into two broad areas. The first area included studies which were mainly concerned with measurement of participants' knowledge and attitudes post pain course. The second area sought to establish whether there was an effect on nurses' pain practice and on patients' pain experience. Some of the studies reviewed both outcomes (Weissman and Dahl 1995, Dalton *et al.* 1996, Dalton *et al.1999,* Luo-Ping *et al.* 2004, Howell 2000).

With few exceptions, studies demonstrate enhancement of pain knowledge and attitudes post course. However, whilst review of pain course outcomes suggests that participant knowledge was usually improved, evidence that the knowledge gained on courses was then applied and sustained in practice was more limited. Absence of relevant clinical data may be due in part to methodological weakness in study designs and it is unclear whether courses, which did not go on to examine the effect of participation on patients, might have indicated encouraging outcomes had they done so. For example, Grant

et al. (1999) asked study participants to develop action plans for practice post pain course, but lack of follow-up meant that sustained effects of education on practice were not established. The limited evidence of examination of practice impact is supported by Adriaansen and Achterberg's (2007) review of 27 studies that examined the content and effect of palliative care courses for nurses. From the studies reviewed, the effect of education participation on patients was only identified in seven studies (Adriaansen and Achterberg 2007). This does not mean that studies, which solely evaluated the acquisition of pain knowledge acquired post-course were incomplete; rather they were limited as they gave little indication of any practice impact or patient benefit.

Studies which investigated the impact on nurses' pain practices or patient satisfaction report moderate to significant effects. Both Camp-Sorrell and O'Sullivan (1991) and Brockopp *et al.* (1998) reported moderate changes in practice, while Weissman and Dahl (1995), Weissman *et al.* (1997) and Harmer and Davies (1998) were encouraged when participants in their studies demonstrated more significant changes in pain practices. However, it is significant that practice changes were not always sustained.

From the studies reviewed, gaps are apparent in our knowledge about pain course impact in two main areas, where the research is not fully informative about the effect on pain practice. A gap exists in the research about how nurses use knowledge gained through pain course participation in their practice. Additionally, there is limited information about the impact of pain

education on practice barriers and the conditions that support or prohibit application of pain knowledge into practice. Therefore, when considering some of the obstacles previously explored in this Chapter that have perpetuated the theory-practice gap in relation to pain care, a number of limitations should be considered which, if addressed, may increase the effectiveness of pain course participation on nurses' pain practice. A review of these limitations follows.

2.7 LIMITATIONS ARISING FROM PAIN COURSE REVIEW

This section identifies six limitations arising from the review of pain courses that inhibit the transfer of knowledge into practice and considers the related evidence from pain course outcomes that have contributed to more successful practice outcomes. The effects of organisational barriers that have previously been identified in this chapter, constituting considerable obstacles to implementation of evidenced pain care, are incorporated throughout the discussion. The limitations include:

1. The premise that nurses will be able to transfer pain knowledge acquired through course participation into their practice.

2. The assumption that knowledge to inform and influence practice is truly perceived by nurses as relevant.

3. The primacy given to theoretical knowledge over practical knowledge and the consequence this position has on practice relevance.

4. The lack of opportunity for nurses to determine their own practice change.

5. The reliance on the individual to influence practice change.

6.   The implication of the separation of nurses from the research activity.

The first limitation considers the premise that nurses' will be able to transfer pain knowledge acquired by course participation into their practice. Parallels can be drawn between the difficulties of incorporating pain research into nursing practice and the application of knowledge derived from education participation.   In common with nursing research, the ultimate goal of continuing education is described as the improvement of patient care by changing the behaviour and practice of nurses (Camp-Sorrell and O'Sullivan 1991). While positive evaluations of pain education courses are encouraging, the evidence is clear that assumptions cannot be made that the acquisition of knowledge and demonstration of theoretical competency, through successful programme completion, will translate into practice.

Researchers who have evaluated the impact of pain course studies also support this analysis. Reviewing outcomes of their study, Clarke *et al.* (1996) found that providing accurate information about pain management, even though important, was not sufficient to result in improved pain management. Reflecting this problem, Brockopp *et al.* (1998) refer to the considerable effort that has been made in the US to improve pain management, yet they suggest that there has not been a concomitant change in practice.   Reviewing outcomes from studies, other researchers have similarly concluded that education alone is in itself insufficient to change behaviour or impact on practice (De Rond *et al.* 1999, Seers *et al.* 2006a). While McCaffery and Ferrell (1997) agree that knowledge itself is not enough to improve patient

care, they do however acknowledge it as the first step to developing practice
More encouragingly, MacLaren and Cohen (2005) reviewed outcomes from
twelve pain programmes and concluded that there was evidence of
knowledge acquisition and cautiously inferred that some programmes did
result in behaviour change. They do however point to the limited evidence
reported from programme outcomes to support evidence of such change.

Like research knowledge, the difficulties with knowledge transfer have also
been attributed to the disparity between academic and practice paradigms.
Referring to the physical separation of theory and practice, Ousey and
Gallagher (2007: 200) describe how theory is learnt from the external world
but then must be incorporated into the internal world of the nurse. Clarifying
this distinction, Gerrish and Clayton (2004) observe how the structured
knowledge that exists within policies and guidelines can differ from knowledge
required to incorporate that knowledge into every day practice. Because of
this, Hammersley (1993) contends that sound practice cannot amount to
straightforward application of theoretical knowledge. The consequences of
this position is aptly described by Wells *et al.* (2001) who contend that what is
possible and what is generally achieved in practice with regard to pain control
are in reality very different. A recent example of this was reported Young *et
al.* (2006). Nurses in their study questioned the reliability of pain tools
suggesting that they were too subjective and inaccurate for them to use in
their practice. Section 2.5 of this chapter provided further examples of this
position where nurses at times struggled to implement evidence based pain
practice.

The evidence clearly suggests that transfer of pain knowledge from education courses into practice is not guaranteed, as attempts to reconcile the theory-practice gap with pain care is compounded by the complexities of the clinical environment. Omission of context is thus criticised by Virtanen and Uuskiyla (2004: 83) who fault models which focus on programmes and their goals while ignoring the social contexts and the actions of individuals through which programme outcomes are implemented. When the complexity and variability of practice is not taken into account, nurses often find it difficult to make the relationship between theory and practice. This is substantiated by the studies reviewed, which examined practice impact. For example, Brockopp *et al.* (1998) found that participants in their study encountered barriers ranging from lack of knowledge and misconception by colleagues to non-facilitative attitudes from their institutions when they attempted to implement changes in pain practices. A finding from Effective Health Care (1999) confirms the requirement to take account of practice settings when transferring guidelines into practice. Evaluating the introduction of guidelines into practice, they conclude that guidelines to change clinical practice were more likely to be effective when account was taken of local circumstances and where dissemination occurred by active educational interventions. Consideration of these factors can be attributed in part to the successful outcomes reported by Weissman *et al.* (1997) with their pain project. They identified facilitating factors including: positive attitude towards change; motivation to work for change; challenging of inappropriate attitudes and access to resources to enhance transfer of information as positive conditions for implementing pain related initiatives.

Taking consideration of the difficulties associated with applying pain knowledge in clinical practice, the process of knowledge transfer cannot just comprise systematic application of knowledge according to pre-determined certainties about clinical practice. It is therefore reasonable to suggest that theory may be questioned, distorted or indeed discarded, as nurses attempt to adapt what has been taught into the reality of their practice. Programmes to improve knowledge, skills and attitudes are important but practice contexts require consideration if pain education participation is to have the desired effect. Thus, while education is important, by itself it may not be adequate when attitudes and context continue to be significant mediators. Education courses may be more effective when interventions based on an assessment of potential barriers are undertaken and consideration is taken of what is possible within the particular practice context.

The second limitation concerns the assumption that knowledge to inform and influence practice is truly perceived by the nurse as relevant. Jordan *et al.* (1999) argue that explanations for the education gap are multi-functional but include the relevance of content and focus of courses to practice. The effect of this was apparent in the study by Weissman *et al.* (1997) who suggest that many of the issues discussed at their initial one-day conference did not apply to long term care facilities recruited into their project and therefore many of the participants from these facilities did not continue with the study. This problem was also recognised by Schafheutle *et al.* (2001) as nurses in their study did not perceive pain scores as helpful. They felt that patients did not always understand the concept of attaching a number to their pain level.

Although some studies have gained nurses' views about what they perceive as useful pain knowledge (Clarke *et al.* 1996, Simons 2002), the key points are that there is limited evidence which informs how or whether nurses go on to use that knowledge in their practice.

The third limitation challenges the premise that theory not only informs practice but can have primacy over practical knowledge (Reason 2003). The premise is not without its critics, with Ousey and Gallagher (2007) proposing that the increased emphasis on nursing as an academic discipline has resulted in knowledge becoming more important than practice. However, evidence in relation to pain knowledge indicates that practice does have a significant influence on nurses' pain knowledge. In a study by Cohen (1980) nurses state that they acquired most of their knowledge regarding analgesics through their clinical work. More recent studies continue to support this finding. Fothergill-Bourbonnais and Wilson-Barnett (1992) found that the working environment was perceived to be the most influential experience in learning about pain and its management. Respondents to Fuller and Conner's (1997) study stated that they learnt to assess pain on the job. Significantly, findings from a study by Clarke *et al.* (1996) confirmed that participants rated informal information sources, contact with colleagues and personal experience as more important sources for learning about pain management than education. Further verification that knowledge about pain and its management arises from practice was noted by Nash *et al.* (1999), who found that pain knowledge was acquired when working with other health care workers.

Reason (2003: 207) concurs to the inevitability of this position and contends that in some ways practical knowledge has primacy over other forms of knowing. He supports this assertion with reference to Macmurray (1957: 12),

> Most of our knowledge and all of our primary knowledge, arises as an aspect of activities that have practical, not theoretical objectives; that is this knowledge, itself an aspect of action, to which all reflective theory must refer. Theory can arise from practice instead of the other way around.

Using pain care as an example, the inference is that useful knowledge is one that solves practical rather than theoretical problems and therefore usable knowledge emerges from practice. In this respect, it is unsurprising that many nurses value pain knowledge acquired in practice as most useful. The important point that needs to be considered here is the acknowledgement that while theory informs practice, practice is also a powerful mediator that influences the way theory is interpreted in practice. Reason (1988: 4) describes practical knowledge as 'knowledge of how to' which explains the application of a skill or demonstration of practice competence. Practical knowledge is therefore valuable as it explains the practice reality, the application of skills, and the experiences of nurses who are delivering pain care.

The fourth limitation is more apparent in studies where a practice initiative has been included alongside education participation, often without evident consultation with the nurses who were asked to implement the intervention (for example, refer to De Rond *et al.* 1999, 2001). Taking a positive perspective on this approach, practice interventions complemented pain

education, bridged the divide between theory and practice and provided direction and impetus for improvements in pain care in practice. However, whilst these efforts to encourage application of evidenced based pain care provide a constructive and informed attempt to improve nurses' pain practice, the approach may not be relevant for every situation. It cannot be assumed that education or planned interventions will have the same relevance and impact in every context, a limitation which has been highlighted by a number of researchers (Weissman *et al.* 1997, Schafheutle *et al.* 2001, Young *et al.* 2006). Few studies have assumed *a priori* perspective of practice change or considered whether the evidence being implemented was appropriate to particular contexts. De Rond *et al.* (1999) acknowledge this limitation in their study. They accepted that a second daily pain assessment, which had been implemented as part of their research, led to increased burden for nurses who worked in a surgical ward with reduced staff numbers. They subsequently recommend undertaking appraisal of practice context prior to implementation of a proposed innovation.

There are studies where participants developed their own action plans for change and decided which aspects of pain care they wished to influence (Weissman and Dahl 1995, Weissman *et al.* 1997, Brockopp *et al.* 1998) Unlike other studies, practice interventions were not pre-determined by researchers but were selected by participants. However, although researchers report on the extent to which action plans were implemented in practice, they do not give an indication of the value of action planning for initiating practice interventions.

The fifth limitation considers how in some studies, there has been some reliance on the individual to initiate practice change. Brockopp *et al.* (1998) suggest that attempts to change practice at an individual level were relatively unsuccessful in their study because organisations did not prioritise pain care and organisational barriers were considerable. Research reinforces the argument that changes in the delivery of pain care needs to be supported thorough organisational priorities and collaborative processes (Brockopp *et al.* 1998, Weissman *et al.* 1997).

The sixth limitation is the passive role participants largely played in the research studies. It may be ironic that while researchers often criticised the inability of nurses to use pain theory in their practice, their methods did not acknowledge the value of engaging practitioners in their research. In most studies nurses were passive participants in the research process. The notable exception to this was Simons (2002) who used action research methodology to involve nurses in her research. However, some methodological limitations with this study are apparent. Simons (2002: 112) describes nurses as co-researchers in her study but a different group of nurses, from those who were involved in initial focus groups and identified course content, actually participated in the education intervention. Carr and Kemmis (1986: 165) maintain that minimal requirements for action research stipulate that those responsible for practice should be involved in each stage of the research. Although Simons (2002) used nurses as key informants in

her study, the same nurses were not consistently involved in all aspects the research cycle.

In summary, education is rightly regarded as the springboard for implementation of evidence based pain practice, yet it was evident that a number of other factors influenced the ability of nurses to reflect knowledge acquired through education courses in their practice. Importantly, the evidence was clear that transferring knowledge from pain education into practice was a complex process that required more than participation in a pain course. Although both research and education were increasingly influencing nurses' pain practices, outcomes and recommendations from research studies have indicated that there is further potential to improve that impact on pain practice.

The literature was informative about how pain education impacts on nurses' pain knowledge and attitudes and, to a more limited extent, also informs of practice impact. However, research has not explored how nurses use knowledge gained through pain course participation in their practice. This observation is shared by Gunnarsdottir *et al.* (2003) who called for research to determine the components of educational interventions that were needed to improve pain management by nurses. MacLaren and Cohen (2005) also called for evaluation of the strategies clinicians used in their practice following pain course participation. Additionally, while literature was also revealing about the practice barriers pain course participants confront when they attempt to transfer pain knowledge into their practice, little is known of the

strategies nurses can use to overcome the impact of practice barriers after their education participation. My research has addressed these knowledge gaps and two specific research questions related to these aspects of the study are:

- How do nurses use knowledge gained during a pain course in their clinical practice?

- How do nurses negotiate barriers in their clinical environments to improve pain practices following participation in a pain course?

I also argue that innovative approaches to research on pain education have the potential to address some of the limitations identified in this section. Published studies have not fully explored the potential that action research has for transferring knowledge from a continuing education pain course into practice.

Action research embodies the characteristics that have the potential to address some of the limitations identified earlier. It is presented as an alternative approach to research that has the potential to blur the boundaries and address concerns between practice, education and research (Holter and Schwartz-Barcott 1993, Meyer 2000a). Waterman (1995: 782) offers a simple justification and rationale for using action research, suggesting a critical examination of both theory and practice may help to bridge the theory-practice gap. I contend that action research as an inquiry method will contribute to an understanding of how nurses use pain information in their practice and will involve nurses in the implementation of pain knowledge into their practice.

Participation in the pain course equipped nurses with the theoretical knowledge that they could use to improve aspects of pain practice. Action research encouraged them to identify practice problems, to seek appropriate and relevant solutions for these problems and to evaluate the impact of any interventions applied in practice. In essence, the methodology attempted to change pain practice, whilst bridging the gap between pain knowledge and practice. My third research question addressed the utility of using action research as an approach to change nurses' pain practice. The research question was:

- How does engagement in action research affect nurses' capacity to influence pain assessment and management practices?

My approach to this inquiry is entirely in keeping with the broad purpose of action research. Reason (2003) describes the double aims of action research as,

> One aim is to produce knowledge and action directly useful to a group of people – through research, adult education and socio-political action. The second aim is to empower people at a second and deeper level through the process of constructing and using their knowledge. (p.207).

Chapter 3 of this thesis explores the rationale for using action research in more detail. The outcomes of the inquiry reviewed in Chapter 9, assess the extent to which these double aims were realised.

2.8   CONCLUSION

This chapter has confirmed the existence of enduring problems that inhibit the delivery of effective pain care by nurses and other health care professionals.

While complex, inter-related barriers continue to pose challenges for evidenced based pain care. Education is rightly considered as a solution for improving the assessment and management practices of nurses. Research outcomes usually demonstrate positive impact on nursing attitudes and knowledge following pain course participation and there is some evidence to suggest that this is also reflected in practice. However, the transfer of knowledge acquired from pain education is not without problems. Challenges with application of pain knowledge into practice persist, with potential consequences for patient suffering. The potential for action research to offer a creative resolution to barriers that exist between pain theory and the reality of practice is reviewed in the following Chapter.

Chapter 3 Action research methodology

3.1 INTRODUCTION

In this chapter, I examine critically action research methodology by drawing on the literature that has informed the development of action research as a method of inquiry. By methodology, I mean the approach that has influenced the design of my study, which seeks both to inform and to influence aspects of nurses' pain practice and the philosophical assumptions from which action research inquiry has emerged. I begin by briefly examining the origin and evolution of action research in section 3.2 and draw upon the seminal work of Lewin (1946) in particular. The key characteristics of action research are interrogated in section 3.3 including: its participatory nature; investigation into social practice; contribution to practice change and development of theory. Examination of these characteristics illustrates the main tenets of my action research inquiry; namely, the research's focus on pain practices that can potentially be improved and the premise that nurses responsible for practice should be involved in that improvement. Throughout this section, reference to my own methodology is integrated into the discussion to demonstrate how these characteristics influenced the direction of my inquiry.

In section 3.4, an account of different approaches to action research is provided with some discussion about the traditions that have influenced those approaches. Particular reference is made to my approach to action research inquiry, which has served me well and was most appropriate when addressing the aims and research questions of my study. A definition of action research offered by Waterman *et al.*

(2001) is explored in section 3.5 and the way this reflects the particular characteristics and orientations of my study is reviewed.

The potential limitations of using action research as a method of inquiry for my study are reviewed in Section 3.7, with particular reference to problems of validity and researcher bias. Section 3.8 provides an overview of how action research was utilised and describes the four phases through which the research progressed. The conclusion in section 3.9 summarises the key findings from this chapter.

This Chapter draws on two broad fields of literature. First, literature is included that helps to explain the philosophical and epistemological foundations of action research and refers to the work of key commentators in this field; notably Reason (1988, 1994, 2003), Reason and Bradbury (2006), Kemmis (1993, 2006) and Carr and Kemmis (1986). The second area of literature focuses on authors who have examined and utilised action research approaches within health care settings. In particular, the work of Heather Waterman and her colleagues (2001) provide an informed perspective of action research inquiry within healthcare.

3.2   ORIGINS OF ACTION RESEARCH

The development of action research is largely attributed to its earliest contributors, Collier (1945) and Lewin (1946), who both recruited research participants from areas they were investigating to help identify problems in, and develop strategies for, improvement within the participants' own social contexts. From these beginnings, the basic premises of social research evolved and the orientation of action research is largely attributed to a set of propositions developed by Lewin. These propositions

are that research should be focused on social practices that are susceptible to improvement and those responsible for practice should be involved in research (Lewin 1946).

A variety of approaches to action research have emerged since the original work of Lewin during the 1940s and it is suggested that this is one of the reasons why action research as a concept may not lend itself easily to definition (Holter and Schwartz-Barcott 1993). Since the 1940s various disciplines have adopted the basic ideas used by Lewin and action research has evolved into a method reflecting different epistemologies, ideologies and methodologies. Action research has since become a generic term used to describe a variety of research approaches whose principle aim is to improve a practical situation (Carr and Kemmis 1986, Webb 1989, Waterman *et al.* 2001). In this respect, the term action research is said to describe more fittingly a particular orientation and purpose to inquiry rather than a research methodology (Reason and Bradbury 2006). Reason and Bradbury (2006: xxii) propose that action research consists of a 'family of approaches' that have different orientations, yet reflect the characteristics which seek to 'involve, empower and improve' aspects of participants' social world. These characteristics and their significance to my study are explored in some detail in the following section.

3.3   CHARACTERSITICS OF ACTION RESEARCH

A number of authors have attempted to identify the characteristics that illuminate the uniqueness of action research and distinguish it from other methodologies. Carr and Kemmis (1986: 164) specify the underlying principles of action research which probably best reflect the ideology of Lewin's (1946) original work. These include:

1. Participatory character

2. Democratic impulse

3. Simultaneous contribution to social science (knowledge) and social change (practice)

Carr and Kemmis (1986: 165) suggest that contemporary proponents of action research are critical of both the assumptions and applications that underpin these principles. However, they do continue to be cited in the stated characteristics of action research methodology. Action research as a methodology has evolved, yet continues to reflect strongly the original fundamental principles. Although the terminology and nuances may be altered, the fundamental principles remain. For example, this is evident on closer examination of the characteristics proposed by Reason and Bradbury (2006: xxii). They affirm that action research should involve (participatory), empower (democratic impulse) and improve (contribution to knowledge and practice). Lewin's (1952) influence is also clearly evident in the way action research is described in health related literature. For example, Holter and Schwartz-Barcott (1993: 299) identify four distinguishing characteristics of action research including: (1) search for solutions to practical problems; (2) collaboration between researcher and participants; (3) implementation of changes in practice; and (4) development of theory. Hart and Bond (1995: 40) produced a useful typology of seven criteria framed within four broad traditions of action research, which they suggest retain the distinct identity of action research. In summary, these also reflect collaboration and involvement, a practice focus and intervention.

Drawing on action research literature, I have identified four of the key characteristics associated with action research in the following sections. These are widely

recognised qualities of action research and essentially help to distinguish action research from other qualitative approaches. I also discuss the significance and integration of these into the methodological approach adopted in my study.

3.3.1 Participatory nature

Lewin (1946) emphasised the importance of involving participants throughout the research process and identified this as an essential attribute. His emphasis led to the evolution of one of the most recognised characteristics of action research; that it is participative in nature and is underpinned by collaboration between the researcher and practitioner. Participation as a characteristic of action research can take a number of forms and it was helpful to consider these from three perspectives.

First, participation describes a research partnership or a form of inquiry that is a collaborative endeavour between researchers and participants. Whyte *et al.* (1991) maintain that this involvement is the defining feature of action research. In their definition of action research, Waterman *et al.* (2001: 11) describe a 'group activity…founded on a partnership between action researchers and participants'. However, the extent of collaboration between researcher and participant can be highly variable. Indeed, variations in participants' level of involvement have been criticised as some studies claiming to use action research methods have failed to demonstrate true collaborative intent. For instance, this limitation was identified in the previous Chapter in the study conducted by Simons (2002). Some authors advocate that when collaboration is evident throughout all the stages of the research, there is more opportunity to obtain practical solutions to problems identified for investigation (Holter and Schwartz-Barcott 1993, Waterman *et al.* 2001). This

includes participant involvement in problem diagnosis, development and implementation of action plans and subsequent evaluation of these processes.

However, in their typology of action research, Hart and Bond (1995: 41) indicate that the degree of participation often reflects the broad approaches of action research and acknowledge that this can vary through different stages of an inquiry. Jenks (1999) and Waterman *et al.* (2001) contend that the levels of collaboration often vary between studies, from those that encourage participation in particular stages of the inquiry, to those that are fully collaborative during all aspects of the project. Collaboration can therefore range from informing a review and diagnosis of a particular problem to identification of solutions, testing and evaluation of that solution in practice.

In relation to my study, it is important to identify the scope of collaboration between myself, as the researcher, and the nurse participants. Herr and Anderson (2005: 32) maintain that it is challenging for the researcher to define positions within an action research inquiry. However, I would argue that failure to do so poses questions about the trustworthiness of the study. As the original impetus for my study was directly related to PhD study, and reflected my interest in the outcomes of pain education, the topic area and research questions were therefore influenced by these conditions. Collaboration with nurse participants began at an early stage in the study where they reviewed their pain practices and identified particular problems and potential solutions. They proceeded throughout the course of the research to put into practice a range of solutions to improve or influence aspects of pain care and evaluated their effects.

A second perspective of collaboration reflects the way group activity, rather than individual effort, is often a hallmark of action research. Koch and Kralik (2006: 38) describe the purpose and outcome of group activity. They view collaboration as a means of networking for a common cause, where common ground is discovered with others to whom the research aim is important. In this way, they suggest, shared interests are advanced through a process of dialogue and co-operation. The research participants in my study formed two groups, drawn from two campus sites from the same University Department. The groups were recruited from two larger student cohorts who had registered for a pain course. Research participants of each group were united by a common interest in pain care but were also attracted to the research by the possibility of working with their peers to influence aspects of pain care within their practice.

Third, action research is collaborative in that participants locate their inquiry in their social world and in doing so may involve others in aspects of the research. Carr and Kemmis (1986: 165) suggest that as action research progresses, there is an expectation that a widening circle of those affected by practice would be involved in the research process. In respect of nursing practice, this perspective of participation reflects the reality of patient care as a collaborative endeavour participated in by a range of health care practitioners. The significance of this position in relation to pain care was reviewed in some detail in Chapter 2. In relation to this inquiry, there was an expectation that any attempt to influence or change practice would ultimately include participants' clinical colleagues who were involved in the delivery of patient care.

3.3.2 Investigation into social practices

Whenever possible, action research involves participants developing their own knowledge and practice that reflect the social and political values of their own social world (Kemmis 1993). In this way, the epistemological basis of action research may differ from other forms of research, in that knowledge and practice is generated from the perspectives of different participants in the research process. This includes the researcher but also significantly practitioners who (as individuals) have access to local knowledge, have insight into the workplace and have access to the history, structures, processes and cultures of where they work (Holter and Schwartz-Barcott 1993, Jenks 1999). Elden and Levin (1991: 131) contend that this unique knowledge into a particular situation by those who spend time in it provides an insight that cannot be obtained by outsiders. Kemmis (1993: 182) describe this as access to practical theories, which in turn results in informed action or praxis. Hammersley (1993: 217) emphasise the value of participants' first hand experience and the information and understanding they bring to a situation. Significantly, he also observes that participants are in an ideal situation to test theoretical ideas in a way an observer never could and provide particular insight into the evaluation phase. The contention is that only the practitioner or those directly involved can have access to the perspectives and commitments that inform particular actions. In this regard, action research encourages individuals to investigate their practice and the context in which practice occurs, to formulate accounts of their situations and devise appropriate plans (informed action) which reflect their practice situation.

By involving nurses at the outset of my research, it was essential that I acquired their insight and views of pain practices. I recognise that the context of practice is an

integral part of this process and therefore participants were encouraged to examine the impact that context had on their own pain practices. In doing so, they provided a particular perspective of practice that could not be attained solely by a practice outsider. The positions reviewed in this section all conclude that participants who investigate their own practice are then more likely (than those who do not) to identify and implement appropriate interventions to change practice.

3.3.3 Contribution to practice change

A further characteristic of action research is the expression of commitment to the improvement of practice (Kemmis 1993, Hammersley 1993). In other words, action research attempts to identify and implement solutions to solve problems or improve practice as an actual part of the research process. In their definition of action research, Waterman *et al.* (2001: 11) refer to a 'change intervention aimed at improvement and involvement'. Reason (1994) describe this as one of the basic aims of action research, whereby a specific group of people are helped both to identify and to influence change in an aspect of their working or social world. This is one way in which action research can differ from other forms of social research. Participants are encouraged to search for solutions to problems and then apply these within their own practice setting.

This intervention is reflected in Lewin's (1952) original reflective spiral of planning, acting, observing and reflecting and continues to form the basis of action research inquiry. For example, Holter and Schwartz-Barcott (1993) include implementation of changes in practice in their action cycle, whilst Hart and Bond (1995) refer to a change intervention. Waterman *et al.* (2001) describe contribution to practice

change as 'action', a term that will be used in the description of the research phases in this study.

The involvement of participants in both investigation and alteration of their practice has a number of consequences. First, there is an underlying belief that if participants implement change it is more likely to be relevant and sustaining. This is based on Lewin's premise that the interaction between the participants and the social system leads to solutions for practical problems and changed practice (Holter and Schwartz-Barcott 1993). Kemmis (1993) maintains that praxis can only be researched by the participants themselves. It is therefore logical to suggest that solutions and interventions are more relevant and sustaining if generated by participants.

Secondly, in direct contrast to other research approaches, action research normally includes the implementation of solutions as a part of the research process. There is therefore no delay between study completion and the implementation of solutions to problems identified. The research process itself includes action or implementation of change and importantly, subsequent evaluation of that action. In this way action research can produce a different type of knowledge from that produced by other research methods, knowledge that is arguably more useful in practice because it has emerged from practice.

With reference to the use of research knowledge in health care settings, Sharp (2005: 2) contends that 'good practice evidence is failing to become good practice as the enduring problem of the implementation of evidence into practice persists'. The

consequences of this for pain care and the patient experience were reviewed in Chapter 2. The response to this dilemma is reflected in renewed focus on the concepts of knowledge transfer, knowledge and research utilisation and implementation. Greenhalgh *et al.* (2004) refer to the process of bringing new ideas, practices or technologies into consistent and appropriate use in clinical settings. The potential for action research to act as a vehicle for knowledge transfer is well recognised. For example, a scoping study exploring the potential use of action research and applied research to support evidence-based practice in the National Health Service Scotland (NHSS), supported action research as a positive response to the current challenges of moving research into practice (Sharp 2005). In a review of 48 studies, action research was perceived as a way of effecting change (Waterman *et al.* 2001). Furthermore, Waterman *et al.* (2001: 22) suggest that one reason action research was selected as a method in the studies reviewed was an attempt to bridge the research-practice gap.

Thirdly, action research has an empowering benefit. As participants become involved in identifying their own issues and problems and take action to address these concerns, they enhance this sense of empowerment (Elden and Levin 1991, Lindsey 1999). Furthermore, Elliot (1991) contends that expertise developed during this engagement enhances the participants' ability to discriminate and make judgments. These qualities are reflected in Waterman *et al.'s* (2001:26) observation that empowerment occurs through personal development and engagement in aspects of the research process.

With reference to my research questions, the focus on transfer of pain knowledge into practice and the possibilities of participants effecting change in pain care is a key aim of this study. Central to this is the way in which participants can enhance pain practices by using pain knowledge acquired through course participation. The personal and professional consequences of participation in an action research study for the nurses involved will also be considered.

3.3.4 Development of theory

In a review of fifty-two action research studies Waterman *et al.* (2001: 40) identify that the less visible outcomes of studies are related to their failure to produce knowledge or contribute to existing theory. Although outcomes from the inquiries or from different stages of inquiries were often apparent, Waterman *et al.* (2001) found that the explanations that supported changes or outcomes were not. It emerges in the literature that one of the major criticisms directed at action research is that it does not effectively contribute to theory generation. However, in response many authors concur that development of theory is not the main purpose of action research and share the following observations. Reason and Bradbury (2006: 2) suggest that the primary purpose is to produce practical knowledge that is useful to people in their everyday lives. Building on this, Waterman *et al.* (2001: 16) contend that action research places emphasis on practice or behaviour, with research being the tool to bring about and support change. Therefore, they argue that research should not be judged purely by research outcomes or theory development. However, Dick (2004) notes the dearth of action research literature for theory building. Recognition that this form of inquiry can meaningfully contribute to theory generation may be overlooked, yet is an important outcome of the research.

Responding to these dilemmas, Herr and Anderson (2005: 5) describe the goals of action research as a double burden. They suggest that it is concerned with both action (improvement of practice/ social change) and research (creating valid knowledge about practice).

There are essentially two strands of theory production described within an action research framework; the construction of local theory for testing (Argyris and Schön 1991) and the eventual contribution of theory produced to existing theories (Reason and Bradbury 2006). The term local theory perhaps best reflects the notion that knowledge produced through action research inquiry is contextually bound. In other words, the theory that arises from an action research study is influenced by the social situation in which it is created. For example, as I describe later, the social situation in my study refers to the social construction of the two groups of nurses who participated in my study and the clinical contexts where the nurses work. Thus, the theory that emerges from my inquiry has been shaped by these social situations.

Whilst there is a danger that a small-scale localised study can have its impact overstated, action research does not attempt to generalise solutions to problems that may apply to similar settings, as interventions are designed for a particular context. As action research is context specific and situational, the purpose of action research is not to produce general assumptions. However, it is still possible that the theory can contribute to existing theories by generation of additional knowledge for use by others. Whyte *et al.* (1991) argue that there is potential for action research to make this theoretical contribution by placing ideas in the context of pre-existing literature. For example, knowledge gained can add to existing knowledge from previous

empirical studies (Jenks 1999), contribute to theory on organisational culture (Whyte *et al.* 1991), provide knowledge about settings where change is being implemented (Trolley 1995) and can add value to the discipline or topic being investigated.

A process of reflection is used to make the theory explicit, that is, practitioners reflect on their practice as the project progresses (Argyris and Schön 1991). Theory can then be generated or refined and its general application explored through the cycles of the action research process. Jenks (1999: 254) describe a process whereby practitioners discover the factors that facilitate or inhibit their practice. Thus, insight allows practitioners to influence practice and importantly these insights become local theory. As research progresses, the practitioners test the local theory by developing interventions that place the theory in action. They evaluate the intervention and as a result refine the theory (Jenks 1999). A continuous cycle of planning, acting, evaluating and theorising may persist until the desired level of action is achieved.

Knowledge that may be advanced through this process of reflection and research includes practical and propositional knowledge (Heron 1981, Waterman *et al.* 2001). Practical knowledge relates directly to the problems and solutions in a particular setting and is best understood by Reason's (1988: 4) description of 'knowledge of how to' apply a skill or demonstrate practice competence (see section 2:7). Propositional knowledge explores the context of action and, for example, encourages the researcher to ask questions about what is happening, and the reasons behind actions (Waterman *et al.* 2001). Thus, theory generated through action research produces knowledge that forms an extended epistemology that

informs about practice change and helps to develop theories to explain phenomena and predict outcomes.

In relation to my study, theory development is defined by its practical relevance to the way in which nurses were able to use pain related knowledge to effect changes in pain care. The cyclic nature of action research promotes reflection and reconstruction of experiences that contribute to the development of propositional knowledge. In this way, it was anticipated that theory would also develop as nurses explored the conditions that promoted, or hindered, practice initiatives.

3.4 APPROACHES TO ACTION RESEARCH

Reference to a 'family of approaches' (Reason and Bradbury 2006: xxii) helps to illustrate the notion of a common purpose to action research inquiry but also signifies the diversity of approaches and assumptions which underpin the different orientations. In this section, I examine three different approaches to action research; empirical-analytical, collaborative and critical action research. I also identify the approach that most fittingly reflects the ideologies and purposes utilised in my study. However, in doing so I also acknowledge that there are inherent difficulties when attempting to distinguish between the different approaches. I suggest that this is made more difficult by the different positions that exist in the literature, in relation to the associated philosophical traditions.

Furthermore, I do not attempt to 'over categorise' action research inquiry, as in doing so the connections that exist between the different orientations is lost. In this respect the three approaches reviewed in this section do not describe a prescriptive

approach to action inquiry, rather they help to identify the underpinning epistemological and methodological issues that characterise the three different approaches described here.

Before reviewing literature about action research inquiry, it is helpful to consider the work of Kemmis who distinguishes different orientations to action research or 'research approaches capable of having an impact on practitioners' theories and practice' (Kemmis 2006: 94). Although not always acknowledged as a source, his method of distinguishing action research is evident in many of the typologies identified and is reflected in the three approaches reviewed in this section. Drawing from perspectives of critical theory from the German philosopher Jürgen Habermas (1972), Kemmis (2006: 95) distinguishes three broad approaches; empirical-analytic (or positivist), hermeneutic (or interpretive) and critical (or emancipatory) approaches. Each of these approaches reflects a quest for a particular type of knowledge and so employs different methods to obtain that knowledge.

Empirical-analytic, which is concerned with testing effectiveness of an intervention, is guided by a technical or instrumental approach to inquiry. Interpretative research serves a practical interest that is guided by informed action in practice. Critical research has an emancipatory interest, said to empower and free people from social constraints. In the subsections that follow, these approaches are reviewed and their relevance to informing the approach for my study considered.

3.4.1 Empirical-analytic action research

The breadth of action research inquiry can be demonstrated along a continuum that starts from a positivist, scientific method of inquiry into social change and moves towards a qualitative focused methodology. The positivist end of the continuum perhaps best reflects Lewin's early work and his scientific approach to solving social problems. There is broad consensus as to what constitutes this approach to action research, as descriptions tend to reflect a positivist tradition. For example, in their typology of action research Holter and Schwartz-Barcott (1993: 301) describe action research at the positivist end of the action research continuum as 'technical collaborative'. Whitelaw *et al.* (2003) refer to a technical scientific and positivist orientated approach, while Hart and Bond (1995: 38) describe this type of action research as 'experimental'.

The aims of empirical action research reflect these positivist descriptions in that they include the testing of particular interventions based on pre-specified frameworks and therefore draw on traditional scientific methods (Holter and Schwartz-Barcott 1993, Whitelaw *et al.* 2003). Empirical research therefore largely describes an approach with an experimental predisposition, one that can be used to test theory or used to identify causal relationships. This method of inquiry can be seen in research approaches that test the effectiveness of particular interventions on selected outcomes. For example, a number of studies have tested the effectiveness of pain education on nurses' knowledge (Dalton *et al.* 1996, Grant *et al.* 1999, McMillan *et al.* 2005). As discussed in Chapter 2, results usually indicate enhancement of pain knowledge but do not fully address impact on practice. In this respect, Kemmis (2006: 95) is critical of technical research that suggests success is measured when

the goals of a project to test an intervention have been attained. He contends that this is an inherently narrow perspective that fails to take account of the situation in which practice is being carried out. Although my inquiry is concerned with the effect of nurses' participation in pain education, the focus is on practice and the way in which nurses can use knowledge to change or enhance aspects of their pain practice. The intention therefore is not to measure knowledge acquired but to explore how nurses can critically use pain knowledge in practice. In this respect, employing only a technical approach to my action research inquiry would have limited its scope and would not have addressed fully the potential for enhancing pain practices.

A further constraint when considering empirical action research as a method of inquiry, concerns the involvement of nurses as participants. Robottom and Colquhoun (1993: 50) assert that participant involvement is one of the main distinctive features of any action research inquiry but describe research at this end of the continuum as being carried out 'on other people', as opposed to with, or for, participants. In empirical research the role of researcher and participant are quite distinctive, with the researcher maintaining main influence and control. Although participants' expertise is acknowledged, their role and influence in the research may be limited. For example, Whitelaw *et al.* (2003) suggest that participants' contribution may be confined to the provision of feedback about a particular intervention. Empirical-analytic action research is an appropriate method of choice when participant involvement is required to test or evaluate an intervention. However, this approach would not on its own suit my research aims that emphasises three of the action research characteristics reviewed earlier. These include

participation and collaboration, practice context and commitment to improvement of practice. In this respect, an empirical approach to my inquiry would limit the scope of research.

3.4.2 Collaborative research

Moving towards the middle of the action research continuum, a more collaborative orientation between researcher and participants emerges, with Robottom and Colquhoun (1993: 50) suggesting that collaborative research is done 'with other people'. Reflecting the collaborative nature of this form of action research, Holter and Schwartz-Barcott (1993: 301) describe a 'mutual collaborative' approach to inquiry. Similarly, Whitelaw et al. (2003) also convey this collaborative intention, identifying the 'mutually collaborative and interpretive' orientations that form the basis of this type of action research.

Kemmis (2006: 95) recognises that this approach to action research has aspirations to change practice, whilst encouraging participants to consider the influence of the practice context on them and their aspirations. This approach brings participants and researcher together to identify common problems, seek and try out possible solutions and monitor the progress of these solutions. One approach to collaborative inquiry described by Reason (1994: 326) as co-operative inquiry reflects these stages. He proposes that co-operative inquiry takes place within a cyclic phase of action and reflection. Participants, as co-researchers, identify a practice situation that can be influenced or changed, implement the chosen intervention, reflect on progress and modify intervention in light of experience (Reason 1994).

In relation to my study, the aims and investigation of research questions may be addressed by this collaborative approach to action research. Importantly, collaborative inquiry focuses on participation and collaboration, practice context and commitment to improvement of practice. However, in relation to participation, Reason (1994) suggests that this approach suits a group of people who view themselves as relatively empowered and who wish to explore and develop their practice together. In this respect, participants in my research are Registered Nurses who may be considered as holding positions of authority and influence in clinical practice and are therefore in a position to influence change. However, this can be an over simplification both of the reality of their position and the context of practice, as was evident in the literature reviewed in Chapter 2 that reported how nurses encountered a range of practice obstacles and negative attitudes when attempting to influence pain practices. Therefore, I am hesitant in suggesting that my study entirely reflects all the features of collaborative action research and it is helpful to consider the third approach.

3.4.3 Critical action research

Critical action research reflects the work of Friere (1970) that emerged from work carried out with people experiencing oppressive social conditions in the third world and disenfranchised groups in the US. Essentially, Friere's approach to action research was aimed at helping oppressed groups to identify problems and subsequently take action to improve their conditions. Participant empowerment is a key aim of this approach. Holter and Schwartz-Barcott (1993: 39) consider this an enhancement approach that assists practitioners in 'identifying and making explicit fundamental problems by raising collective consciousness'. Kemmis (2006: 95)

describes how critical action research aims at improving outcomes and the self-understandings of participants but is also transformative, in that it aims to reconstruct the practitioners' practice setting.

Participatory action research (PAR) is one of the most recognised forms of critical action research, although this too has different forms, reflecting different intellectual traditions. Drawing on a number of these traditions, Reason (1994: 328) describes three aims of PAR. These include: the production of knowledge and action directly useful to a group of people; the empowerment of participants through construction and application of knowledge through a process of consciousness raising; and a commitment to action.

The approaches used to meet these aims are similar to those identified by Reason (1994) for co-operative inquiry, in that participants engage in cyclic activities to explore and improve aspects of their practice or their own role within practice. The process of reflection is fundamental to both approaches. Despite these similarities, differences emerge between the two on closer examination of their respective aims. For example, critical research is concerned with transformation of practice; co-operative inquiry focuses on the practical possibility of changing (enhancing) practice. Critical research historically evolved from working with oppressed groups in society and thus begins with the premise that participants are fundamentally disempowered within their social context. In contrast, co-operative inquiry begins with the understanding that participants are empowered individuals who are in a position to influence practice.

With reference to my study, there are aspects of critical action research that do not fully reflect the aims and questions of my study. Specifically, I would suggest that the emphasis on oppressed groups is not a concise reflection of the reality of nurses' work situation. Furthermore, the emphasis on practice transformation, rather than enhancement, provides unrealistic expectations of what study participation can achieve. In conjunction with this emphasis, there is an assumption that practice transformation is required and desirable. I would contest that the focus of this study is on nurses' capacity to influence or change aspects of pain practice, rather than transformation.

Like the other approaches described, critical action research is underpinned by the same characteristics that form a common thread connecting all types of action inquiry. Each one emphasises a different approach to inquiry, yet they all share certain characteristics that distinguish action research from some other modes of inquiry. Despite some differences in ideologies and purpose, all three approaches emphasise the systematic testing of theory in practice contexts. All three approaches support the notion that people can be self-reflective about their world and take action within it. A principal outcome of all three approaches is a change in the experience of those involved in the inquiry. Through engagement both in action and the research process, participants are potentially empowered to influence their circumstances. The ways in which these attributes developed through the stages of my research are reviewed in more detail in section 3.8 of this Chapter.

At the outset of the study, one of my main challenges could have been to locate my inquiry in one of the three broad orientations to action research described in this

section. However, my decision not to do so reflects the belief that each approach contains the common attributes, previously identified, which provide a framework for my inquiry. If I had chosen to use one model of inquiry exclusively, there was a risk that the study would have been guided by ideological perspectives that would not have entirely reflected the circumstances of participants or requirements of my study. Considering this position, I have identified aims and a definition of action research that reflect these common attributes, and provide an important reference point for my inquiry.

3.5 AIMS OF ACTION RESEARCH

The dual aims of improvement and involvement have formed the foundation of action research since its earliest presentations and continue to be reflected throughout the different orientations of action inquiry. Carr and Kemmis (1986: 165) provide clarification of the aims, suggesting that they include:

- Improvement of practice

- Improvement of understanding of practice by practitioners

- Improvement of the situation in which practice takes place

- Involvement of participants in all phases of the inquiry

Carr and Kemmis (1986: 165) imply that these aims are mutually dependant, as the improvement of practice is enabled by the involvement of participants in all aspects of the inquiry. These aims clearly reflect the characteristics of action inquiry previously described and are also reflected in the following definition of action research.

3.6   A DEFINITION OF ACTION RESEARCH

A working definition of action research is selected for my inquiry that does not wholly reflect one particular orientation; rather it embodies a number of characteristics that are reflected in the three approaches discussed earlier. Waterman *et al.* (2001: 11) propose this definition following an extensive review of action research literature. Their deliberate avoidance of a particular philosophical orientation provides a working definition that incorporates action research approaches used in healthcare research (Waterman *et al.* 2001).

> Action research is a period of inquiry, which describes, interprets and explains social situations while executing a change intervention aimed at improvement and involvement. It is problem oriented, context-specific and future-oriented. Action research is a group activity with a critical value base and is founded on a partnership between action researchers and participants, all of whom are involved in the change process. The participatory process is educative and empowering, involving a dynamic approach in which problem identification planning, action and evaluation are interlinked. Knowledge may be advanced through reflection and research, and qualitative and quantitative methods may be employed to collect data. Different types of knowledge may be produced by action research, including practical and propositional. Theory may be generated and refined, and its application explored through the cycles of the research process. (p.11)

Whilst both failure to reflect or favour one particular orientation to action research and the lengthy construction of this definition make it susceptible to criticism, it is congruent with the aims and research questions that informed and directed my inquiry. As the definition reflects approaches of action research in healthcare, it provides a realistic orientation for what action research can achieve in that situation. For example, by emphasising practice improvement rather than the practice transformation, as described in critical action literature, Waterman and her colleagues recognise that focus on practice enhancement rather than change is a

realistic outcome of healthcare action research. As a working definition, all the key elements of my action research inquiry are identified. For example, the definition reflects the aims and characteristics of action research, describes the process of inquiry and importantly, refers to the expected outcomes.

3.7   METHODOLOGICAL LIMITATIONS OF ACTION RESEARCH

In this section I address some of the limitations of action research, with a particular focus on issues of validity and bias. Validity in research is usually posed in terms of what constitutes a credible claim to the truth and therefore provides a useful means to examine particular issues related to the quality of the research. Bradbury and Reason (2006: 343) debate the need to have standards of validity, or criteria that may not be congruent with concerns of action research, yet concur that dialogue about validity helps to highlight important questions about research choices. Herr and Anderson (2005: 54) developed an extended version of five validity criteria which they suggest reflect the common goals of action research. Although they too assert that validity criteria for action research are tentative and in a state of flux, their criteria provide a valuable, if somewhat overlapping, benchmark from which to evaluate the validity of research. The following sections examine each of the five criteria and I consider the implications of each of these for my study.

3.7.1 Process validity

Process validity broadly refers to the method employed with the research. When considering action research, Herr and Anderson (2005: 55) propose that reflective cycles should be apparent in the research methodology. Closely linked with process validity in action research are related issues of rigour. Rigour in action research has

been subject of considerable debate from which different perspectives have emerged. In particular, tensions are reported in the literature between the need to demonstrate scientific rigour at the expense of practical relevance, or practical relevance at the cost of scientific rigour. This tension is clearly described by Argyris and Schön (1991: 85) who suggest that if social scientists 'favour the rigour of science', they risk becoming irrelevant to the practitioner's demand for usable (practical) knowledge. Alternatively, if they favour action research they risk falling short of prevailing research standards for rigour. Argyris and Schön (1991: 85) challenge the researcher to achieve standards of rigour without compromising research relevance.

Kemmis (1993: 185) suggests that rigour derives from logical, coherent interpretations of the reflective spiral. Thus, advocating that rigour is embedded in method as participants engage in cycles of observing, reflecting, planning and acting. Bradbury and Reason (2006: 344) agree that as the cycles of action and reflection develop, this fosters development of both understanding and of practice. It is in this way that the strength of action research emerges from the movement between elements in the cycle; the subsequent questioning of each creates a process of validation.

In the next section I present an interpretation of the reflective cycle used in my study. The cycle consist of four phases of inquiry; problem identification, planning, action and evaluation. The principles of action research inquiry embedded in this cycle were selected to advance understanding of practice, which includes both practical and propositional knowledge about pain care in participants' clinical practice. Rigour

is demonstrated through the involvement of participants in each of these phases and in the methods used to collect data.

Waterman *et al.* (2001: 47) suggest that one response to criticisms of rigour is also the inclusion of multiple perspectives or methods, which incorporates triangulation, or the use of several kinds of data. Chapter 4 in my thesis provides an explanation of how methodological data triangulation contributed to a more detailed and balanced perspective of participants' experiences and understandings. Finally, feedback to study informants as a study progresses is also identified as a way of data checking and ensuring participants' perspectives and experiences are represented clearly (Waterman *et al.* 2001).

3.7.2 Democratic validity

Herr and Anderson (2005: 55) describe democratic validity as the extent to which research is carried out with all the parties involved in the investigation. They pose two provoking questions in relation to participation, asking how deep and how wide participation really is. Participation and collaboration were previously identified in this Chapter as characteristics of action research methodology. Although there is recognition that differences exist in the level and nature of participation, there is consensus that the ongoing exchange between researcher and study participants in the diagnosis and evaluation of problems and in data gathering process and review of findings, is pivotal to the approach (Whyte *et al.* 1991, DePoy and Gitlin 1994, Waterman et al. 2001). As participants act as co-researchers throughout the process this helps to add validity and helps to verify outcomes. The essential contribution participants made to my inquiry is reviewed in detail in Chapter 4.

Herr and Anderson (2005: 55) also refer to Cunningham's (1983) perspective of local validity in which problems and relevant solutions emerge from specific contexts. Waterman *et al.* (2001: 35) describe this as a real world focus that acknowledges the context in which research takes place. However, a frequently cited criticism of action research is that by emphasising local problems there is an inability to generalise findings to wider contexts (Waterman *et al.* 2001). Denzin and Lincoln (1994: 100) refer to this as external validity, described as the extent to which findings can be generalised to similar settings to the one in which the study occurred. Referring to a participative worldview, Bradbury and Reason (2006: 344) also draw attention to the need to ensure issues raised by the research are addressed at both local and macro levels, suggesting that researchers pay attention to the implications of research findings within the wider context. In later Chapters, I have made associations between the literature and my data and findings, to show how they connect with a wider knowledge base.

In response to the challenge of generalising findings from action research, and the criticism of research transferability, Koch and Kralik (2006: 139) advise the researcher to describe the context and participants. They suggest a judgment of transferability can then be made of the actions, or the application of theoretical propositions, arising from the research. In agreement, Bradbury and Reason (2006: 347) propose that a study can be used by inquirers with similar concerns as well as helping to clarify their own circumstances. Chapter 4 of this thesis describes the participants and context in which the study occurred.

3.7.3 Catalytic validity

Catalytic validity refers to the transformative potential of action research, specifically the education of both researcher and participant (Herr and Anderson 2005: 55). In effect, this describes the process by which those involved deepen their understanding of theory and context and can be encouraged to change it. I would suggest that this is best described by Carr and Kemmis (1986: 148) as 'commitment to action'. However, they caution participants against action that undermines a project, suggesting that common commitment to prudent action results in more desirable outcomes. In this respect, engagement in praxis, described as wise and prudent action (Carr and Kemmis 1986: 190), provides a more explicable and understandable measure of validity than does the term catalytic validity. However, in both respects validity is partly determined by the extent to which participants in my study engaged freely with the research process and were persuaded that their actions were beneficial to their patients. This component of validity is addressed in the data Chapters 5-8.

3.7.4 Outcome validity

One criticism of action research is that projects stop following problem diagnosis or implementation (Watkins 1991, Waterman *et al.* 2001), yet there is agreement that the practical outcome of research is important (Reason and Bradbury 2006). Herr and Anderson (2005: 54) describe outcome validity as resolution to the problem that led to the study and the extent to which action orientated outcomes were achieved. While achievement of outcomes provide a clear benchmark for measuring outcome validity, Reason and Bradbury (2006: 34) offer a more extended epistemology of outcome in action research. They propose that outcomes should be explored

reflexively; a process that not only assesses the outcome of action but also examines the impact and value of outcomes. For example, value may take account of the utility of participant learning (Reason and Bradbury 2006), whilst impact refers to the lasting effect of the action or outcome (Waterman *et al.* 2001).

My study addresses action outcomes from different perspectives. As proceeding Chapters demonstrate, outcomes were not confined to measuring whether pain related interventions identified by nurses were implemented in practice, but consideration was also given to the value nurses attached to their interventions and the benefits for patients, for practice and nurses' own development.

3.7.5 Dialogic and process validity

Herr and Anderson (2005: 55) describe dialogic and process validity as the generation and dissemination of new knowledge. As previously identified in this Chapter, there is a dearth both of practical and propositional knowledge emerging from action research studies (Waterman *et al.* 2001, Dick 2004). Arguably, through production and dissemination of this thesis, the debates about the practical and theoretical issues described can be extended.   However, I acknowledge that limitations with dialogic and process validity persist if wider dissemination is not achieved.

3.7.6 Addressing bias in action research

Issues of bias in action research have been the subject of some debate in the literature. There is consensus in the belief that action research is inherently a biased methodology and that this can occur from a number perspectives. For instance, Carr

and Kemmis (1986: 192) suggest that bias can arise if researchers analyse their own practice. Waterman *et al.* (2001:34) contend that lack of researcher independence or separation contributes to bias. It is also important to note that bias is not a particular problem related to action research but can arise with any of the methods used in qualitative methodology. In response to these concerns, Herr and Anderson (2005: 60) recommend that biases be examined and procedures put in place so they do not have a distorting effect on outcomes. With reference to my research, bias is considered by examining it from the three perspectives; methods, researcher and participant bias. An account of my participation in the research and the methods employed for data collection are interrogated in Chapter 4. This section considers some of the concerns related to participant bias.

While participants' insights are crucial to the development of action research, conflicts can arise because of this participation. For example, Hammersley (1993: 218) suggests that people may be misguided about their own intentions and motives during the research. In this regard, issues of vested interest by participants may be a threat to bias and validity, as participants use aspects of research involvement for purposes other than that for which the research was intended. I would suggest that this might be one of the more difficult aspects of bias to overcome, not least because participant intentions may not always be visible to the researcher. One way in which this can be offset is to consider processes for recruiting participants, which I describe in Chapter 4, and through participant engagement and reflection throughout the research cycle.

A further problem related to participant bias is identified by Waterman (1998) who suggests that understanding of a phenomenon requires viewing within a wider context, which may be difficult for those involved. For example, in my research, the problem identification stage phase required nurses to explore their perception of pain care in their clinical practice. It was important to consider the potential for bias as nurses provided their accounts and perceptions of how pain was assessed and managed. A perception that may be different for others involved in the patients' pain care. Thus, acknowledging that nurses' perspective derives from their particular nursing role will open up access to some types of information but not to the perceptions of others who did not participate in the research. It is therefore important to recognise the potential for bias when reporting findings. Considering a related issue, Carr and Kemmis (1986) also question whether practitioners can understand their practice in an undistorted and unbiased way as their perception may be clouded by other conditions. However, Kemmis (1993) offers his own perspective of this problem and actually questions whether value-free and objective social science is possible.

By considering issues of validity and bias in action research, I have indicated safeguards which have been taken to minimise some of the effects which have the potential for affecting the legitimacy of my study. The next Chapter continues to address issues of validity and bias where relevant. Consideration is also given to these factors when examining the research outcomes.

3.8   PHASES OF INQUIRY

This section will review the four phases of action inquiry used in my study.   Each phase is identified as a discreet component and depicts a sequential progression of events that move from one phase of the inquiry to the next.   However, in reality all phases are interconnected and form part of a reflective, iterative process where there is movement back and forth between the phases.

The distinguishing characteristic, which underpins an approach to action research inquiry, can be seen in its reflective approach.   This is based on the notion of a cyclic process of reflection that involves a number of phases.   While some differences exist in the precise interpretation of this cycle, the basic premise continues to reflect Lewin's ideals of research and action.   For example, Jenks (1999) describes the process of action research to include planning, acting, reflecting and evaluating. Kemmis (1993: 178) identifies planning, acting, observing and reflecting.   For the purposes of this study, it is helpful to refer to a description provided by Waterman *et al.* (2001: 11) these include:

1. Problem identification (fact finding)

2. Planning

3. Action (change)

4. Evaluation

Essentially this cycle identified by Waterman *et al.* (2001) describes a process where research participants engage in activities that include identification of specific problems, planning and development of strategies to address the problems, implementation of actions and finally evaluation of the consequences.   Whilst the steps outlined suggest a logical, almost linear process of events, in reality movement

between phases is more iterative as participants move back and forth between stages in the cycle. Many descriptions of an action research cycle include reflection as a discreet phase (Kemmis 1993, Jenks 1999). The decision not to do so in this study reflects the belief that reflection is a central component of the whole cycle and that each phase in itself involves critical movement between reflection and action. The action research cycle, the purpose of each phase of the inquiry, and methods of data collection are illustrated in Diagram 1.
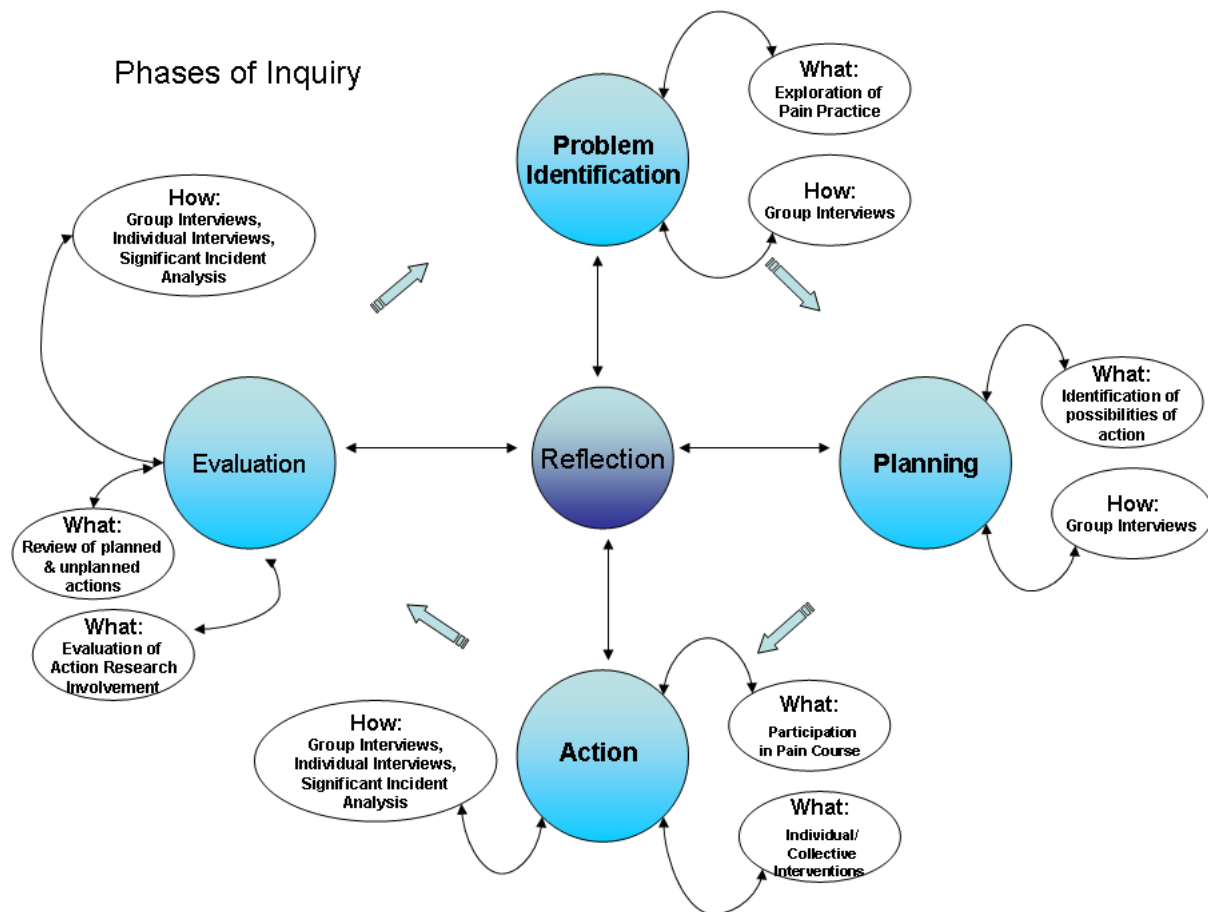
Diagram 1 This diagram illustrates the action research cycle and the inquiry phases contained with each cycle.

3.8.1 Problem identification

Problem identification describes the first phase of this inquiry, where the goal was to gain an overall impression of pain assessment and management practices and in particular, to identify those important factors that required investigation. Essentially this was an exploratory phase, which Waterman *et al.* (2001) describe as a period of fact finding. In action research, this phase is normally associated with a detailed review and analysis of a situation leading to identification of problems and subsequent areas for development. An examination of pain practice by nurses themselves was used to identify the discord between their pain practice pre-course and their expectations of good pain practice. Rycroft-Malone (2006: 106) supports this initial review of practice, suggesting that 'there needs to be questioning in order to realise there might be dissonance between current practice and what best practice ought to be'. Importantly, interventions are also more likely to be effective when nurses base their actions on an initial review of practice.

Study participants are central to the exploratory process and their initial review of issues located within their social context is normally regarded as the first step in the research. While this is fundamental to action research inquiry, problem identification can also be informed by other sources. For example, the initial literature review presented in Chapter 2 helped me to make decisions about the research area, facilitated detailed exploration of the nature of problems associated with pain assessment and management practices and the potential value and limitations of education interventions. From the outset, examination of literature provided the inquiry with a particular focus and informed the research questions.

Although the review helped to establish an initial baseline for the research, most importantly the first phase of the inquiry was informed by the experience of the nurses themselves. Data generated through the initial group interviews contributed to the research process on a number of levels. Through participation in group interviews, insight into nurses' pain knowledge and their perception of pain care administered by them and others within their clinical practice was obtained. Nurses considered barriers and facilitators to pain care and were encouraged to examine their own involvement and accountability for aspects of patient pain care. This process resonates with Kemmis' (1993) notion of praxis, whereby participants engaged in a form of self-reflective inquiry which took account of their understanding of pain practices and the situations where the practices are carried out. Participation in group interviews and the nurses' discussions also helped to refine the important pain related issues for the nurses. Jenks (1999: 258) emphasises the value of participants' practical input at this stage of the research to establish that the resulting interpretations accurately represent the reality of the situation. The findings from this stage of the study are reported in Chapter 5.

It is also important to highlight a further function of this phase in relation to the collaborative nature of action research inquiry. Hart and Bond (1995: 194) suggest that meetings in the early stages of the research provide an opportunity for negotiation around the detail of the inquiry. In this respect, this first phase also provided an opportunity for clarifying roles and expectations about the purpose of the study. This phase also helped to establish relationships and gave a collaborative perspective to the inquiry. In later Chapters I show how collaboration was

maintained throughout the study and became a key element for practice development.

Finally, data acquired through this phase helped to establish a baseline from which to review changes in nurses' perspectives of pain assessment and management practices over the period of the inquiry.

3.8.2 Planning

Although identified for the purposes of explanation as a discreet stage, in reality and consistent with methodology, this phase overlapped with the previous phase where exploration of pain issues and planning were bound up in the same activity. For example, during the initial focus group discussions nurses identified tentative areas for knowledge and practice improvement. This included descriptions of potential pain practice initiatives and some ideas about their implementation. There was also initial agreement about the potential for collaborative and individual action. These initial plans identified by participants are reviewed at the end of Chapter 4.

One of the challenges of providing a coherent account of action research is to include the dynamic and iterative processes that participants engage in, which do not always follow the linear and logical pathway implied here. This is pertinent when considering the planning phase. Actions or intentions to change practice, expressed at the outset of the study, in reality became part of a cyclic process that was adjusted throughout the duration of the research, in response to a range of conditions that influenced any planned change. For example, while nurses identified potential actions in the early stages of the study, this was not the only time they engaged in

planning activities. There was recognition that as nurses' pain knowledge developed and practice conditions changed, these factors would also influence nurses' plans for changing aspects of pain care.

3.8.3 Action

The action phase of an action research inquiry is essentially a period of activity described as an intervention phase (Meyer 2006: 282). In terms of logical progression, this phase follows planning and illustrates the interventions in which nurses have engaged. However, like the planning phase, this is a deceptively simple description of events. The action phase is also cyclic as participants engage in a cycle of planning, intervention, reflecting, re-planning and so on. Significantly, reflection is an important component of this phase. When engaging in reflection, participants think about the way the new action has affected them and has impacted on their practice. Adjustments to action may be reviewed at this stage in response to the outcome of the interventions. If the action has been successful, this may also act as a spur to continue with the intervention or to modify it.

The action elements of this study can be considered from a number of perspectives and reflect both individual and collective action. Pain course participation, which was important for development of nurses' competence, formed an essential part of this. With a focus on research findings and current evidence, nurses were encouraged to evaluate the relevance and application of these to their practice. Other key interventions were those that nurses, either collectively or individually, engaged in within the context of their practice. Data collection comprised groups and individual

interviews and the recording of Significant Incident Analysis (SIA) from practice. The findings from this phase are reported in Chapters 6 and 7.

3.8.4 Evaluation

Evaluation occurs at several identified points throughout the selected actions or at their conclusion. This phase reviewed how interventions had developed, were refined and implemented since the initial planning phase. In essence, this phase considered the extent to which individuals or groups were successful in implementing change. Furthermore, the evaluation phase also took account of new or previously unplanned actions that had arisen. In order to establish a meaningful evaluation, Jenks (1999: 261) advises that this phase includes reflection on what has been achieved and factors which have facilitated or hindered this achievement. I maintain that this is a significant element of evaluation in my study, as understanding of the conditions that facilitated or hindered nurses' pain interventions, along with strategies they used to reduce the impact of barriers to pain care, are important.

In relation to my study, evaluation occurred on different levels. First, there was evaluation of the effects of course participation on individual nurses. This took account of the influence of pain related knowledge on nurses' understanding of pain care, but also importantly on the consequences for their pain practices. Second , there was an evaluation of collective pain related interventions. Both these evaluations considered the aspects of pain care that have improved, as well as the conditions under which these improvements occurred. These findings are reported in Chapters 6 and 7.

In my study, a further aspect of evaluation considered the merit of nurses' involvement in action research inquiry and evaluated their feelings about being involved in the study and the contribution this made, if any, to their pain practices and professional development. In effect, consideration was given to the possibility that their involvement in action research inquiry complemented course participation and provided a level of impetus for pain practice interventions that may not have happened otherwise. These findings are reported in Chapter 8. Data for the evaluation phase was collected through group and individual interviews and SIA.

3.8.5 Closure

Closure of action research is not a discrete phase identified in action research literature. However, I suggest that it is a phase of the research that merits consideration. Hart and Bond (1995: 197) refer to closure as ending the study and a process of moving on. However, the very nature of action research with its cyclic phases and continuing potential for action, may result in interventions being continued beyond the timeframe of the study. Waterman *et al.* (2001: 39) caution against research that discourages the establishment of an end-point, yet a dilemma can arise when considering the lasting impact of an action research study. Waterman *et al.* (2001: 39) suggest that studies that have a lasting effect or influence can be categorised as having impact. I contend this may be difficult to determine by a set time on study completion. Nevertheless, I agree that while there may be no definitive end to the way nurses' involvement in pain care progressed there was a need to identify a point of participant withdrawal from the study. Martin (2006: 174) also reminds us that the researcher must let go at some point and allow

participants to take responsibility for their actions and learning. I return to the challenges of closing an action research study in later Chapters.

3.9 CONCLUSION

In this Chapter, I have reviewed the main tenets of action research inquiry, described the way I have drawn on the different traditions of action research and considered their utility for meeting the aims and research questions posed in my inquiry. The way in which each approach draws from different intellectual traditions and emphasises different approaches to changing practice are distinctive, yet they share common goals of participation and improvement. Each tradition offers potential to fulfil the requirements of my study. However, I have emphasised the priority of selecting an approach to action research that meets the context of the inquiry, rather than fitting my inquiry into an approach that fails to serve all of the research aims. Failure to locate my inquiry in one specific tradition does not affect its validity. Rather, I contend that validity would be compromised if an unsuitable approach was made to 'fit' the inquiry, or I claimed the use of an approach that was not reflected in the detail of my research.

When reviewing the common characteristics of action research, I explored the dimensions of participation and collaboration and examined the tensions that can exist between the application of theory and reality of practice. The challenge of producing theory that is meaningful to participants' context but which has relevance beyond the immediate situation, is one that will be continually reviewed in this thesis. The assertion that action research is unscientific was addressed when reviewing issues of validity. I suggest that the criteria identified compare favourably with other

measures of rigour in qualitative research. Finally, I described the cyclic nature of action research that formed the framework for the inquiry and helped to address the research questions.   The following Chapters explore the research methods used within each of the phases of the cycle and locate the context of the field of inquiry.

Chapter 4 Research methods

4.1   INTRODUCTION

In this Chapter, I review and describe the research methods used within each of the phases of the action research cycle described previously in Chapter 3. The process of gaining approval from Health Board Research Ethics Committee (HBREC) and Department Research Ethics Committee (DREC), Department of Nursing and Midwifery, University of Stirling, is presented and ethical issues of particular significance to the study discussed. I describe the study participants who comprised 14 Registered Nurses and an overview of their practice areas is given. The issues surrounding their participation in the study is reviewed in section 4.3. A description of the pain course, which consisted of two credit bearing units within a degree programme, is provided in section 4.4. In action inquiry, the role of the researcher requires consideration. In particular, my dual role as researcher and teacher and the implications for research participation is examined in section 4.5.

The second part of this Chapter considers the data collection methods and their dual role in initiating and sustaining both a participatory and reflective approach to study involvement, as well as being appropriate methods of data collection. The methods used combined three qualitative data sources: two types of semi-structured interviews; individual and group interviews and SIA. These methods are explored in section 4.6. In section 4.7 I give an account of my approach to data analysis and theory development.

4.2   ETHICS

Successful application for ethical approval was made to DREC (appendix 1) and the two HBRECs pertaining to where participants practiced as nurses. The applications were informed by the principles identified by the British Sociological Association (2002) and the Royal College of Nursing (RCN) (1998) with regard to ethical research practice. The key ethical principles which were followed throughout the study related to issues of professional integrity, autonomy, justice and beneficence. Notably, the principle of autonomy and related issues of privacy and confidentiality required constant vigilance, considering the collaborative nature of the research. Subsequent reporting and dissemination of research findings has to ensure that the anonymity of participants is not compromised. Removing identifiers, breaking the link between the data and identifiable participants and annonymising practice areas helped to ensure such responsibilities towards research participants were maintained. Principles of confidentiality and anonymity are included in the consent instrument (appendix 2) which incorporated the requirements of the Data Protection Act (1998). There were no external sponsors or funders for my study.

The process of fulfilling criteria for DREC and HBREC for ethical approval was a rigorous procedure. It required focus on study rationale, aim, methodology, research design and methods and a constant evaluation of ethical principles related to each of these stages. The need to articulate these clearly at an early stage in the study helped to identify potential ethical risks and consider approaches to minimise them. Gaining informed consent is one of the primary ethical considerations in research (RCN 2004). Informed consent to participate must be given so that participants understand information and explanations related to what the research is about, why

it is being done and how it will be conducted. These areas are detailed in the letter to prospective participants inviting study participation that was distributed during student (administrative) registration for the first pain unit (appendix 3). Participation information was followed up by a face to face meeting with both groups of students on the first evening of the course. Students were given information about my teaching background, my purpose for conducting the study and had the opportunity to explore aspects of their research participation (appendix 4).

Within any research framework it is particularly important that people should not be coerced into participation. Fundamental to action research is the notion of volunteering rather that participant selection, as motivation to change is an essential element of the approach (Webb and Hope 1995). I was aware that willingness to participate and become involved was crucial to the participatory approach. If keen interest was not expressed by potential participants, the project could not happen or progress. Therefore, it was not in my interest to coerce participation from pain course students who were not enthusiastic about the prospect of participating in the research. It was also important to recognise that the students may have felt obliged to volunteer as a result of a perceived power relationship between them and myself as a course teacher. Furthermore, I had to be aware that, even if unwittingly, coercion to participate must not be used. Hart and Bond (1995: 57) caution against the possibility that friendship might be used, even unintentionally, to oblige participant obligation. Therefore, any cooptation on my part would have been inappropriate and ethically suspect.

The inclusion/ exclusion criteria for participation in the study related to the following conditions:

- participant had registered for the pain unit as part of BSc/ BN degree and indicated intention to register for second subsequent unit
- participant was willing to be an active contributor in the research throughout and beyond the timeframes of the pain course
- participant was required to be in employment as a Registered Nurse in a clinical post

Both student cohorts included Registered Nurses undertaking the degree unit as part of a post-registration qualification, as well as pre-registration student nurses completing a BSc nursing degree. This latter group were excluded from the study as they were not employed in practice and therefore their opportunities to influence pain practice in an informed way would have been limited. Details of research participants are found in section 4.3 of this chapter.

Implicit in the notion of informed consent is the right of an individual to withdraw from the study at any time and (Meyer 2000a: 179) suggests that participants involved in action research studies should feel able to continually negotiate their involvement in the study. However, it is ironic that the collaborative nature of the research and the involvement of students in the research process may make it difficult for participants to withdraw. For example, Meyer (1993: 1071) cautions that it may be difficult for individuals to withdraw from a study as they become part of a committed group working for change. As a researcher and a teacher, it was important for me to understand the feelings of obligation students may have had in relation to their initial and continued participation in the study and to give reassurances about their choices

in this respect. Whilst two nurse participants did indicate concerns at different stages in the study about the value of their contribution to the research, none of the participants elected to withdraw. In reality nurses identified benefits of participation; these are explored in later chapters.

At every stage of the research process there were ethical considerations. Since participants were engaged in an academic course concurrent with their research involvement, it was particularly important to minimise interference with their academic progress and assessments. In this respect, timing of data collection activity did not occur when students were under other course related pressures, particularly those relating to academic assessment. Further assurance had to be given that grades obtained by students would not be associated with the research or any published outcomes. Other ethical considerations are discussed wherever they arose in relation to the research process and are addressed within the relevant Chapter sections.

4.3   NURSE PARTICIPANTS

The participants were all first level Registered Nurses who had registered for a pain unit (Pain 1) as part of their BSc/ BN degree in Nursing/ Midwifery, with the intention of registering for a second pain unit (Pain 2) after completion of Pain 1.   All participants did successfully (and sequentially) complete these two units of study. The pain units were delivered across three campus sites of a University Department. The three sites are geographically diverse and the students from each of the sites had no formal contact with each other.   At the time the pain units were being delivered, development of information technology systems to support student

learning through online media was restricted. This factor also limited the potential for cross campus student contact. Further details of both pain units are given in the following section of this Chapter.

The decision to exclude a cohort of students from one of the three campus sites was based on practical considerations. Any contact I would have had with this group would have been limited, would entail significant travel and expense and sustained research contact would have been difficult to achieve. My contact with the other two groups was more manageable; Group 1 participants were situated on the same campus site where I was based (Campus 1) and Group 2 participants were situated at a campus I frequently visited (Campus 2). Lastly, as a teacher, I was involved in teaching the pain units across both campus sites from which participants were recruited. For the group of students based on Campus 1, I provided most of the teaching input and for students at Campus 2, contributed about a quarter of the teaching input across both pain units.

Examples of multi-site action research studies are not commonly reported in the literature. Baldwin (2001) provides one example of such a study carried out with two teams of social workers in the UK. Although he does not provide a rationale for this approach, he does comment on the similar problems and solutions both groups identified. Arguably Baldwin's use of a multi-site sample helped to illustrate common areas of relevance that may have resonated with social workers in other areas. Reflecting this perspective, Waterman *et al*. (2001: 48) suggest that multi-site action research studies may be well placed to provide an overview of issues that are relevant to areas beyond those investigated. My decision to use two groups of

nurses reflected two premises: that knowledge generated by the research, while contextually bound, may also have broader application to pain education and pain care in clinical practice; and the efficacy of using action research as a vehicle for influencing practice.

Purposive sampling was used to identify potential participants for the study. This type of participant selection is a feature of qualitative research and ensures selection of informants that are best able to meet the information needs of the study (Morse 1991). I did not seek out a representative sample of nurses in relation to area of practice or level of experience, rather I emphasised willingness to engage in the study and the potential to examine and/ or influence pain practices within their clinical areas. Silverman (2000: 104) describes purposive sampling as a critical process, maintaining that particular research relevance and direction is facilitated by this selection approach. Denzin and Lincoln (1994: 202) further contend that an advantage of purposive sampling results in selection of groups, individuals and contexts where the processes being studied are most likely to occur. In this respect, selection criteria included, nurses who participated in the pain units, held existing clinical posts; and were open to the possibilities of influencing pain practices.

In total, fourteen nurses volunteered to participate in the study, nine nurses from Campus 1, and five nurses from Campus 2. Taking into consideration the exclusion criteria; nine out of fifteen eligible nurses volunteered from Campus 1, whilst five out of fourteen eligible nurses volunteered from Campus 2. One of the reasons for the lower number of campus 2 volunteers reflected the travel distance some students had from their home base to the campus. With some students travelling up to four

hours to attend classes, there was understandably some reluctance to extend the time away from home.

From the outset of the study, the nurses demonstrated enthusiasm about the possibility of influencing pain practices in their clinical areas and all remained participants until the study was complete. Nurse participants were employed across four different hospitals in two Health Board areas. A brief description of each hospital is provided:

Hospital A   Large General Hospital

Hospital B   Medium Sized General Hospital

Hospital C   Community Hospital

Hospital D   Community Hospital

The participants from both campus sites worked in medical, surgical and theatre areas. The Campus 1 participants all worked in Hospital B: four worked in the same theatre area; two worked in one medical ward; two worked in one general surgical ward; and one nurse worked in a mixed specialities surgical ward. Three of the Campus 2 participants worked in Hospital A: two worked in the same day surgery unit; and one participant worked in a surgical ward. The two remaining nurses each worked in a community hospital (C and D).

From the outset of the study there was a crucial difference between the two groups of participants. Specifically, those who made up Group 1 all worked in the same hospital and had some clinical contact with each other. For the theatre nurses and

surgical nurses who mainly worked in the same specialism, this contact was sustained. The two nurses who worked in a medical ward had only limited contact with their surgical colleagues. In contrast, the nurses who comprised Group 2, with the exception of the two nurses who worked in day surgery, had no clinical contact with each other. One of these day surgery participants also had a six month secondment to a general surgical ward during her participation in the pain courses. In the main, participant contact for Group 2 occurred during the regular weekly lectures and seminars that were a feature of course delivery.

Participants' post-registration nursing experience ranged from two to thirty years. At the outset of the research, one participant was at charge nurse level, the remaining were staff nurses. When the research was complete six out of the fourteen nurses had extended role responsibilities or had obtained promoted posts: Two nurses had extended their scope of practice as nurses dispensers; one obtained a promoted post from a D to E grade staff nurse; and three nurses applied for and were successful in obtaining new specialised jobs (protocol nurse for coronary heart disease, stoma rectal nurse and anaesthetic nurse). Individual information about study participants can be found in appendix 5. The implications of the different group structures and the effect of individual participants on the research process will be explored in later Chapters.

Throughout the research, it was important to be aware of factors which may have affected continued participation in the study. For example, Melrose (2001) cautions that some participants will lose interest in the research and should not be coerced into continuing. While it was important to remain sensitive to this issue, none of the

nurses indicated they wanted to withdraw from the study. One participant felt that her contribution to the study might be limited as her employment area fell under threat of closure soon after the first pain course commenced. She felt that her ability to influence pain practice in her area would be limited as issues of job security and maintenance of existing service provision were more pressing. However, despite these reservations her participation continued until the end of the study.

Morrison and Lilford (2001) also advise that not all those directly involved in the research will want to contribute at the same level, suggesting that some participants will be content with minimal involvement and consultation throughout the course of the study. To an extent, this reflected some of the experiences of the nurses, albeit at different points in the study. For instance, all nurses agreed to participate in all aspects of data collection and all participated in group and individual interviews. However, there were some differences in level of participation. For example, as a component of data collection some nurses produced very detailed accounts of SIA while others' accounts lacked the same level of detail. There were also some differences in nurses' attempts to influence pain practices. However, this was also influenced by a range of factors beyond participants' commitment to the research and is explored further in Chapters 5 - 8.

The decision to confine research participation in the study to nurses who took part in the pain course and both exclude patients and other members of the healthcare team, such as doctors and nurse mangers, was taken for a number of reasons. While patient report can provide a valid perspective of practice change, the conditions under which the study was undertaken would not have captured valuable

patient data that could have contributed to the study aims and research questions. Additionally doctors and other nurses could have provided further perspectives of individual and collective actions but this would not have addressed fully, some of the knowledge areas that were being investigated by the research questions. For example, although participants other than the nurses may have provided useful perspectives of how pain practice had changed, the nurses themselves were in the best position to explore why (or why not) change had occurred and the impact of education participation. However, as it will be shown in later chapters, the effect of nurses' involvement in the study extended into their wider practice communities to include doctors and other nurses. The value of considering multi-disciplinary approaches to pain related developments and future research is further explored in Chapter 9.

4.4   THE PAIN UNITS

The first unit (Pain 1) was developed to form the initial part of the students' study of pain with an emphasis on the origins and measurement of pain. The subsequent unit (Pain 2) addressed issues relating to pain management. As such, both units aimed to address students' understanding of the complexity of pain; raise their awareness of pain problems and the complex bio psychosocial factors that contribute to these; and to enhance their ability to assess and examine pain phenomena empirically. Both units used different forms of summative assessment, including essays, examinations and case studies. Unit content was delivered through lectures and seminars. Each of the units extended over a 15 week semester. All research participants successfully completed both pain units.

Participants selected pain units from a diet of units that were available for BN/ BSc degree in Nursing/ Midwifery. Academic credit for Pain 1 was the current equivalent to 22 credits as identified by Scottish Credit and Qualifications Framework (SCQF) at level 9. Pain 2 was the current equivalent of 22 credits at SCQF level 10.

Pain 1 – Understanding and Assessing Pain

Aim of Unit:

The aim of this unit was to provide students with an extensive awareness of pain theory and measurement issues. Specifically, the unit aimed to help students understand the background of both acute and chronic pain; to explore the issues associated with pain perception and communication; and to examine pain research critically. By exploring the origins of pain, students were encouraged to consider the individual nature of the pain experience. The content also helped them to explore their own understandings and beliefs about the nature of pain. Information relating to pain measurement approaches and their application in the practice context was a key feature of the unit. Students also explored barriers to effective pain assessment.

Content:

- Introduction to pain
- Pathophysiology of pain
- Pain and behaviour (psychology)
- Beliefs and coping (sociology)
- Pain and gender
- Introduction to acute pain
- Introduction to chronic pain

- Pain measurement

- Assessing pain in practice

Pain 2 – Current issues in Pain Management

Aim of Unit:

This unit provided students with knowledge of pain issues which they could relate to particular areas of clinical practice. The primary objective of the unit was to examine current approaches to pain management. A secondary objective was to enhance students' ability to utilise research when examining pain management practices. The unit built on the content of Pain 1 and was organised in three parts. Part 1 explored a number of specific pain issues and related research relevant to management of acute pain. Part 2 explored chronic pain management and Part 3 focused on palliative pain management. Students were also encouraged to consider barriers to effective pain management.

Content:
- Overview of therapeutic pain interventions

- Barriers to effective pain management

- Acute pain management

- Presentation and review of case studies related to acute pain

- Chronic pain management

- Presentation and review of case studies related to chronic pain management

- Palliative pain management

- Presentations and review of case studies related to palliative pain

  management

4.5   THE RESEARCHER

In this section I consider the implications of the dual role of researcher and teacher and the collaborative relationship between myself and study participants.   Before reviewing my role in the research, I provide a brief overview of personal characteristics which may be relevant to the inquiry.   I am a Registered Adult Nurse and Registered Nurse Teacher.   For the past 12 years I have worked in a Higher Education Institution and have taught on pre-registration and post-registration courses for nurses.   I have been involved in the development and delivery of pain curricula at both these stages of education.

The section proceeds with a discussion about my position in relation to the research. I then proceed to review potential dilemmas that may arise out of a collaborative relationship between the researcher and participants and describe the measures which were taken to anticipate and minimise such problems.

4.5.1 Positionality

Positionality refers to the position or relationship the researcher has with the research and the participants. While it is important to define my position in relation to the research setting, this in fact was not straightforward.   The challenge of positioning one's self in the research setting is acknowledged by Herr and Anderson (2005: 32) who concur that it is not a simple matter. As a guide, Torbett (2006: 208) offers three broad pathways which provide some way of defining researcher position and I draw on these pathways to locate my position within my inquiry.

With an emphasis on narrative and self-reflective methods, first person action research focuses on the researchers' investigation of aspects of their own practice or behaviour and assesses the effects of this on their social world (Torbett 2006, Herr and Anderson 2005). The term 'insider research' also describes this approach and research can be conducted either alone or in collaboration with other researchers (Herr and Anderson 2005). At the outset of this study, examination of my own teaching practices was not a consideration in determining the approach to my study and in that respect first person research appeared to have limited relevance to study aims. However, I would now contend that it is neither possible nor desirable to evade examination of the potential effect of my researcher and educator role on participants and my own teaching practice, and some reference will be made to this in the thesis. However, whilst not minimising the value of first person research, the aim of my study is more evidently located within the following two positions.

Second person action research describes a collaborative inquiry into areas of mutual concern which focus on improvement (Torbett 2006). This occurs within a community of inquiry, for example, within an organisation or group of individuals who share a common interest. Herr and Anderson (2005: 38) describe a similar approach as reciprocal collaboration which occurs in partnership between insider(s), for example a group of professional nurses, and outsider(s), for example, a researcher. In one respect this probably best describes my research position. As a teacher (outsider), I initiated the inquiry and invited nurses (insiders) to collaboratively participate in the research. Arguably, I could also claim to be an insider; as a nurse educator I also have access to particular insider knowledge of pain practices, but not, I would suggest, to the particular contextual and practical

knowledge base that nurse participants had. However, reflecting the tenets of second person research as described by Torbett (2006), both researcher and nurse participants were united by interest in pain practices, the possibilities of researching practice and the potential for improving them.

Third person action research occurs within a wider community of inquiry (Torbett 2006), and is more closely aligned to traditional methods associated with applied social science research. Herr and Anderson (2005: 41) offer different perspectives of how third person action research positions itself within action research inquiry, including; collaborative inquiry among outsiders, outsiders studying the effects of action research projects and scholarly investigation on action research methodology. Although, third person action research does not appear to reflect the orientation of my study, there are elements of this approach which do resonate with my study aim. Notably, Chapter eight of this thesis explores the effects of nurse participation in the action research study, and in this respect; elements of third person research are evident.

It can therefore be argued, that as a researcher, I occupied multiple positions (Herr and Anderson 2005), and that this helped to access valid knowledge about the utility of action research as a means of bridging theory and practice. This assertion will be explored in later chapters. Whatever the position of the researcher, there is a consensus that this should be apparent in the research and that any potential bias relating to researcher position be acknowledged (Torbert 2006, Herr and Anderson 2005).

4.5.2 Researcher bias

The role of teacher as researcher is not new and many studies exist where the teacher has reviewed the effects of their educational practice within nursing contexts (Lauri 1990, McCaugherty 1991, Meyer 1993, Dalton *et al.* 1996, Burrows 1997, de Wit and van Dam 2001, Simons 2002). The advantages of researchers operating as 'insiders' have been recognised (Greenwood 1984, Burgess 1984) and in some cases actively promoted (Melia 1982, Brown 2001). Despite these endorsements, it was important that I recognised potential problems created by my dual role as teacher and researcher.

Convincing arguments have been presented which advise against the researcher undertaking research in a familiar setting. Inherent problems concerned with reliability and validity (Greenwood 1984, Hanson 1994), the inability of the researcher to achieve adequate distance (Estabrooks 1987, Ashworth 1994), and lack of objectivity (Hammersley and Atkinson 1983, Bogdan and Taylor 1984, Ashworth 1986, Holloway and Wheeler 1995) have all been raised as legitimate concerns. However, problems regarding bias and lack of objectivity ignore the widely accepted premise within many qualitative approaches, which is, that no one person can be entirely value free and total objectivity can thus be difficult to attain. In this respect it was important to recognise that my investigation could not attain complete objectivity and this acknowledgement itself helps counters criticisms of bias. Nevertheless, safeguards were put in place to reduce the potential effects of researcher bias.

4.5.3 Reliability and validity

Interventions to minimise the effects of bias included participant review of information. In fully collaborative research projects, researchers and participants can have equal responsibility for findings; however, as with my project, it is usually the 'lead' researcher that assumes this role (Winter and Munn-Giddings 2001). Whilst writing the research was an individual activity and the responsibility of the researcher, it was important that nurse participants were involved in the confirmation of data. A number of authors advocate for the action researcher to feedback findings to participants, proposing that participants' confirmation and agreement prior to reporting increases the rigour of interpretations (Meyer 1993, Melrose 2001, Waterman *et al*. 2001).

It is worth noting, that in reality this strategy may not be as reliable as purported. For example, Meyer (1993: 1070) suggests that the researcher can be viewed by study participants as a powerful academic and even although data may be shared, she maintains that lack of knowledge may result in the participant not having a true understanding of the data. Silverman (2000: 177) offers a different and more useful perspective of participant validation suggesting the researcher reviews tentative results with the participants. The important difference here is the researcher reporting data as distinct from analysis of the research findings. As previously noted in Chapter 3, opportunities were made available at stages throughout the study for participants to review data. In particular, group interviews provided the most useful forum for reviewing the summaries of the data, confirming key points and obtaining consensus about the issues nurses raised.

4.5.4   Researcher influence

Throughout all stages of the study it was also important to acknowledge the potential effects of my relationship on the nurse participants. I was aware that there were different perspectives of how this should be dealt with, with some advocating a retreat from close association with collaborators. For example, Jenks (1999) suggests the researcher attempts to strive for neutrality but in reality this reflects a limited perspective of qualitative research processes.

My engagement in course teaching and in the research activity fostered a relationship between myself and participants; a situation that researchers have not always considered problematic and indeed which some regard as both a natural and advantageous position to be in. For example, Meyer (1993) suggests that the researcher is expected to form a close and special relationship with participants in a collaborative inquiry. Field (1991) directs us to consider embracing the possibilities this presents to enrich research and Fontana and Frey (1994) propose that close rapport with respondents opens doors to more informed research. In agreement, Waterman (1995) suggests that detachment is neither possible nor desirable and will not lead to understanding. Other authors have taken this position further, proposing that researchers not only acknowledge the potential of bias but utilise it to their advantage. Foremost advocates of this approach include Lincoln and Guba (1985) who suggest that not only is the quest for objectivity and detachment impossible, it is also undesirable. They commend the researcher to make concerted use of the potential for interaction and to exploit the opportunities that interaction affords.

Despite these endorsements it was important that I minimised any inappropriate influence on decisions nurses made about their practice interventions. One way was to ensure that the aim of the research was sufficiently defined so that clear focus was maintained throughout the lifetime of the study (Field 1991). This was particularly important as nurses understood the importance of exploring their own practice interventions and were not dependant on researcher interventions. Conversely, it was important that I did not seek to impose ideas for pain practice interventions; rather I provided opportunities through the course teaching and the research process for participants' reflective review of their own pain practices.

Issues concerned with real or accidental use of power and influence was counteracted by the nature of the action research approach itself. A fundamental principle of action research emphasises the shift of ownership to the participants, a process which occurred as nurses reflected on pain practices, identified potential for improvement and implemented changes in practice. The groups themselves or individuals within the groups made decisions about which aspects of pain practices they were going to change; they also planned their initiatives and implemented them within their own practice areas. In this respect, I would support the assertion by Frey and Fontana (1993) that my influence on the individuals whilst not eliminated was diffused through the use of groups.

4.6   DATA COLLECTION

This section of the Chapter describes my approach to data collection and reviews the relevance of the strategies chosen, both for meeting the aims of my study whilst also being congruent with the spirit of action research. Reflecting this challenge,

Waterman *et al.* (2001: 37) refer to the dual purpose of data collection that also facilitates the action research process. Data needed to be generated at all stages of the research cycle, including problem identification, planning, action and evaluation. Furthermore, the strategy for data collection needed to provide as much information as possible, to ensure that reasons and intentions which influenced the actions nurses participated in were understood (Jenks 1999).

These requirements were met by combining three different data collection techniques, essentially a form of methodological triangulation. Jenks (1999: 299) describes triangulation as a research approach that uses the combination of more than one research strategy in a single inquiry. Denzin (1978) specified four approaches to triangulation; data, investigator, theory and methodological. These approaches have since been expanded to include multiple triangulation (Mitchell 1986) and interdisciplinary triangulation (Janesick 1994).

Methodological triangulation can occur at a design or data level (Knafl and Breitmayer 1991). Data triangulation explains the approach used in my study. This describes a variety of data collection techniques, within the same tradition, that have been chosen because each taps into different aspects of the phenomena that is being investigated (Knafl and Breitmayer 1991). Triangulation has been used to achieve convergence or data confirmation, and it also suggested that combining techniques compensates for the limitations of one contribution over another (Hart and Bond 1995). However, I would suggest that triangulation achieves more than compensation for weakness of data collection strategies. For example, Huberman and Miles (1994: 430) argue that independent measures (of data) may never

converge and indeed suggest that sources can even be conflicting or inconsistent. Indeed convergence is not an aim of this study as it would be impossible to present a unified explanation for all the phenomena that emerge. Hammersley and Atkinson (1983: 99) contend that it is naive to assume that the aggregation of different sources will add up to produce a more complete picture.

A more compelling argument for using methodological triangulation proposes that the phenomena is made clearer when viewed from more than one vantage point (Fielding and Fielding 1986, Denzin and Lincoln 1994). In this regard, triangulation contributes to completeness, providing depth and breadth to research findings. Knafl and Breitmayer (2001: 229) helpfully illustrate how a holistic understanding of the phenomena is achieved, comparing each data source to an additional piece of puzzle.

Three qualitative methods of data collection were selected for use in my study; including group interviews, individual interviews and SIA recording. These were chosen to help achieve more complete understanding of the inquiry whilst also generating data from each part of the research cycle. Data collection took place over a twelve month period, commencing at the outset of the first pain unit (Pain 1).

4.6.1 Group interviews

Group interviews were carried out at three stages in the study with each of the groups. Pre-course interviews occurred within the first week of course commencement, mid-course interviews were held on completion of the first pain unit (Pain 1) and post-course interviews occurred four to six weeks after completion the

second pain unit (Pain 2). In total six group interviews were conducted.   All participants attended each of the group interviews.   Each interview was audio-recorded and transcribed verbatim.   The group interviews fulfilled a number of functions related to data collection whilst also helping to facilitate the action research process. These functions will be discussed in the following sections.

4.6.2   Group interviews and the action research cycle

With reference to the tradition of action research, Melrose (2001) discusses how the community (or the group) investigates their own condition and subsequently work collectively to improve it.   This essentially describes the purpose of using group interviews within an action research framework.   Helpful guidance around interview design is provided by Martin (2006: 172) who suggests that the interview should begin with exploration, focus on what can be achieved and close with preliminary plans for the future.

Reflecting this design, the pre-course interviews focused on a review of pain assessment and management practices within the nurses' clinical areas as well as nurses' own pain knowledge and practice. This exploratory function was described by Lewin (1952) as a fact-finding phase. The interview guide (appendix 6) reflected issues that were significant in pain literature but also allowed for flexibility in scope and depth of discussion, allowing nurses to explore the pain issues that were important to them whilst remaining focused around areas of particular pain interest (Polit and Hungler 1987). The pre and mid course group interviews also provided a forum for problem identification and helped nurses to identify potential areas for collective and individual intervention.

As the facilitator, it is important to clarify my role and function in relation to the group interviews. The interviews were conducted in a relaxed manner, with reduced intervention from me whenever possible as I wanted nurses to find their own way through the discussion and encouraged them to establish priorities that were meaningful to them. However, I was not a passive participant and was mindful of the purpose of the interviews and the focus of the research questions. It was important to balance this requirement with the opportunity for nurses to discuss and debate issues that were important to them. I maintain that group interviews fulfilled both these purposes. The dynamics from both groups were also successful as nurses themselves engaged in interactions that were complementary (supportive, sharing similar experiences and understandings) and challenging (disagreeing and questioning each other).

One of the vital components of the group discussions was therefore, the development of constructive dialogue that assisted the nurses to review, challenge, and to an extent transform their understanding and perspectives of the pain experience and the way pain care was delivered. In this respect, group discussion can lead to new understandings that may be critical of individual pain practice. Although attainment of critical insight and understanding is part of the exploratory purpose of action research, therein also lays a risk. The process of critical discussion can create ethical issues if nurses become distressed or feel particularly vulnerable by the nature of the discussion. Therefore, from the outset of the research it was important to establish that conditions of trust, confidentiality and group support were guiding principles of the discussions and indeed the research as a whole. Additionally, practical measures were implemented during and immediately

following discussion to reduce the risk of distress. These included an emphasis on the confidential nature of discussions, verification of key areas which arose from the discussions, and the provision of opportunities for the nurses to reflect on the discussion as a means of closure. Furthermore, it was important that as the researcher, I remained sensitive to the potential for distress throughout the discussions and took steps to minimise the occurrence of any distress to the nurses.

As nurses explored their perceptions and experiences of pain practices, they were also challenged by different perspectives from others in the group. At times this led them to re-evaluate their perceptions. For example, during the pre-course interviews theatre nurses from Group 1 reported satisfactory pain outcomes for patients immediately post-operatively. This perception was quickly challenged by ward nurses who reported observing less than satisfactory pain outcomes. This assertion led to all Group 1 nurses (including theatre nurses) to re-examine their understanding of satisfactory pain control. Martin (2006: 168) observes how this form of engagement in inquiry invites participants to challenge previous beliefs and understandings and reframe what they know.

In this way commentators suggest that the interactive nature of groups can create new insight on a problem by focusing on it collectively and by stimulating members to creatively generate ideas for problem solving; these are all important steps in the action research cycle. Hedges (1985: 72) maintains that in a group setting, people can be helped and stimulated both by their own interaction with other group members and by watching and listening to others interact. As individuals engage in

inquiry they may not always formulate an opinion, but that this can be created by listening to others (Krueger 1994, Martin 2006).

It was important that the group interviews allowed nurses to explore critically areas of pain practice. By critical I mean that not only were nurses encouraged to look at their own and others' approaches to pain care but also explored the reasons behind pain related decisions, actions and practices. Although reflection can be both an individual and group activity, Kember (2001) proposes that group discussion can serve well as a spur to reflection with individuals within groups using each other as sounding boards to work through their thoughts and actions. Highlighting the stimulating nature of group interviews, Kember (2001) further contends that there is more to react to, more diversity of thought and opinion than may be expressed at individual interview.

In this respect, the group interviews were successful as a useful tool for facilitating exploratory debate and identifying problems with pain care provision. As will be seen in later Chapters, this exploration resulted in fairly broad consensus both within and across groups as to what key problems were.

One of the purposes of using an action research approach was to extend the possibilities of participants bringing about changes in pain practices. Hedges (1985: 73) maintains that group activity is useful for problem solving as participants gain new perspectives and generate ideas about what is needed to implement change. Therefore in addition to problem identification, the purpose of the interviews was to focus on aspects of pain practice that could be changed and to put preliminary plans

in place for that change (Martin 2006). My initial belief was that the very process of getting nurses together would lead to realisation of similar views, resulting in collective action that might be more effective in tackling problems than could be achieved by the nurses individually. It was at this stage in the interviews that the first dilemma arose. Although there was broad agreement within each of the groups about the problems that existed in relation to pain care it became apparent that the focus on action reflected more individual, than collective action. Thus, later chapters report how some actions were planned and implemented collectively and other actions were taken forward on an individual level.

A further dilemma arose with the nature of actions identified. None of the group interviews ended with clear preliminary plans of action as advised by Martin (2006) and the reasons for this are explored in later chapters. However Martin (2006: 174) suggests that groups may not develop a list of requirements for facilitating action, rather he makes reference to a list of possibilities. I would suggest that this is the most apt description of the outcomes of the group interviews. Although, clear plans of action did not emerge from the groups, I would suggest that group interviews helped to energise nurses about the possibilities of action. In this regard some of the possibilities did become actions (not always collective) which were initiated, supported and sustained by group contact.

Finally, the mid group interviews (appendix 7) and post course group interviews (appendix 8) helped to evaluate the extent to which the planned actions were successful, as well as illuminating any new issues that arose in the course of the research. During these interviews each group re-assembled to reflect on original

ideas and evaluated the actions; both planned and unplanned that they had undertaken. They explored new problems and possibilities they had encountered in relation to pain assessment and management and in some cases planned for further action on aspects of pain care. Post course interviews also fulfilled a further evaluative function. Nurses reflected on the extent to which knowledge gained through participation in the pain course and in action research contributed to their commitment to action. Both these outcomes are explored in later Chapters.

4.6.3 Limitations of group interviews

Whilst it appears that the use of group interviews complements action research approaches and there was sufficient evidence to commend its use, potential difficulties could have arisen affecting the reliability of this method of data collection. This section of the Chapter reviews potential problems that could have affected group interviews and identifies steps taken to minimise these.

The term 'group think' describes a phenomenon which arises when individuals within a group conform to stronger members of the group (Frey and Fontana 1994, Morgan 1997, Streubert and Carpenter 1999). The potential for this may increase when a group consists of participants that have different levels of experiences and seniority within the group. At the outset of the research all but one of the nurses were at staff nurse grade; however within both groups there were variations in the range and level of nursing experience. I would suggest that these variations helped to provide different perspectives to the group discussions and did not necessarily inhibit interactions.

Hedges (1985: 74) cautions against the individual who is dominant, opinionated or an articulate group member, suggesting that this may also inhibit other members' contribution. People may also feel nervous about articulating views opposed to the rest of group (Hedges 1985). Morgan (1997) goes on to suggest that an emerging group may then interfere with individual expression as their opinion dominates. Although Watts and Ebbutt (1987) accept this limitation they also argue that more confident participants are an asset, suggesting that they may bring forward ideas and shape and sharpen the discussion for others. As the facilitator it was important to be sensitive to the emerging group dynamics. I was aware that the views of more vocal members could sway group opinions but found that rather than dominate the group discussions, nurses' were challenging but at the same time encouraged each other to express their individual views and perspectives.

The interviews required a degree of self disclosure and it was possible that some participants may have felt constrained about what they said in front of their peers and the researcher. It is accepted that the group format may make it difficult to discuss sensitive topics (Morgan 1997), and there was the risk that social pressures could condition responses in an artificial way (Hedges 1985). For example, it was possible that nurses may not have wanted to admit to poor nursing practices when discussing aspects of pain care and as a result, tidied up their accounts. Arguably, this may happen in any interview but may be magnified in a group. Conversely, the group may help to legitimise findings as they can act as a source of validation for events and outcomes (Frey and Fontana 1993). In this respect the group interviews did provide an opportunity for nurses to respond to findings and offered explanations and alternative perspectives on the events discussed.

Different opinions exist regarding what is considered to be the optimum size of a group for conducting interviews. Estimations range from a lower limit of four participants (Krueger 1994), to an upper limit of twelve (Goodman and Evans 2006). In relation to these estimates, the nine nurses comprising Group 1 could be considered an average size group, whilst the five nurses comprising Group 2 was at the lower end of these estimates. However, many authorities on group size tend to refrain from specifying the ideal number of participants. Instead they focus on the appropriateness of the group to facilitate a level of engagement that is congruent with the design and aims of the research. Goodman and Evans (2006: 357) helpfully advise that the 'group should be large enough for diversity of perspectives and small enough for all to make a contribution'. Proposing that it is ultimately the purpose of the research that is of importance, Morgan (1996: 142) suggests that, 'research design principles provide a means for linking the purposes of the research and the specific procedures that best achieve these purposes'. Therefore, the vigour of group processes is not determined by the number of participants but on the way in which the composition of the group(s) meet the purpose of the research.

4.6.4 Individual interviews

As previously indicated, the research involved nurses contributing to collective activity and/or individual actions to develop aspects of pain care. Additionally the research was not only concerned with consensus, articulation and group experiences but also about the differences between individual nurses in the groups. It therefore follows that data collection required me to follow the research at a group and an individual level. In this way I was able to access the shared understandings

that came from the groups but also the individual variations that were helpful to understand nurses` particular perspectives and experiences of practice.

Face-to-face individual interviews were conducted 6-10 weeks post course, following the post course group interviews. The interviews were designed to allow nurses to reflect on the ways they managed changes in their pain practice. They were asked to explore the processes which had helped them to develop changes and initiatives, including their perceptions of both course and research participation. Individual interviews were not solely concerned with what nurses did (or did not do), that is, practical knowledge, but also propositional knowledge which was concerned with the 'how' and 'why' behind decisions and actions taken. In this way individual interviews were focused around similar topics as the final group interviews, but retained the flexibility to give nurses that opportunity to follow through on issues raised in more depth. The data obtained through individual interview tapped into different aspects of nurses' experience than that obtained from other data sources and in this respect contributed to the overall understanding of the research. A copy of the interview guide can be found in appendix 9.

It is widely accepted that a mixture of group and individual interviews can be revealing as there is opportunity to explore specific opinions and experiences in more depth that accessing data from one source (Hedges 1985, Fontana and Frey 1994, Morgan 1996, Koch and Kralik 2006). In this respect, the individual interviews were helpful for gaining an in-depth understanding about the personal and social contexts behind nurses' experiences. The interviews allowed me as the researcher and the nurses themselves to pursue information in more depth around particular

topics and issues. May (1991: 192) suggests that individual interviews also facilitate some flexibility in topic selection, and this proved helpful for eliciting and exploring the individual nurses' experiences and understandings that may not have been pursued to the same extent in the groups. Furthermore it can be difficult to distinguish individuals' beliefs and experiences from those of the group and individual interviews provided one means of clarifying individual perceptions.

There were also practical advantages to conducting individual interviews. Although interactions within the groups were lively, the individual interviews gave quieter participants a greater opportunity to speak and voice their opinions. It is also acknowledged that the relative privacy afforded by individual interview helps participants to share more personal aspects of their experience (Koch and Kralik 2006).

4.6.5 Limitations of individual interviews

With reference to my research, the limitations of individual interviews are similar to those identified with group interviews, although some of these issues may be magnified in a more intimate situation. From a practical perspective, May (1991: 193) is concerned that some informants may be articulate and insightful, but warns that others may be more difficult to interview and the interviewer is then challenged to access the same depth of information from all participants. Whilst greater personal disclosure by participants may be one of the advantages of individual interviews they may also be reluctant to disclose information. There was the possibility that nurses would hesitate to admit issues where they anticipated I would be disappointed or disagree with their perspectives. In the same way nurses could

also have complied by responding in the way they believed they should answer or told me what they thought I wanted to hear. Highlighting a related methodological concern, Silverman (2000: 32) questions whether responses provide 'direct' access to the experiences or constructed narratives of the experiences that are being revealed. Although it was never entirely possible to eliminate these limitations, the effect can be reduced by the use of multiple data sources.

4.6.6 Significant incident analysis

The third source of data for my study used nurses' accounts of SIA that reflected pain issues encountered in their clinical practice. This method of data collection was chosen to complement and enrich the interview data, as well as providing nurses with a framework for reflecting on their pain care actions. This section reviews the use of the Significant Incident approach within the overall framework of the study and discusses the contribution these made to study findings.

Although Significant Incidents is the term of choice for this method of data collection used in my study, the term 'critical incident analysis' is more commonly reported in literature. I have taken this to mean, an event from which meaning and insight can be derived through reflection and analysis to raise awareness about a situation and to learn from that situation for future practice. The origin of critical incident technique is credited to Flanagan (1954) who reported it as a procedure for gathering certain important facts concerning behaviour in defined situations. Flanagan (1954) described critical incident and analysis as,

> "any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act" (p. 332)

Essentially Flanagan described two components which are characteristic of this technique, the first being the critical incident. A critical incident has been defined as, 'moments in time' (Clamp 1980), 'a snapshot, vignette, brief episode, a situation or encounter which is of interest' (Minghella and Benson 1995: 207) and as 'snapshots of the working day' (Rich and Parker 1995: 1053). These definitions essentially describe time limited events which have the potential to illustrate an activity or particular aspect of practice. The second component described by Flanagan concerns reflection on and analysis of the incident. Thus critical incident analysis is often used to describe an experience identified by a learner as significant and from which learning has been achieved (Durgahee 1996, Francis 2004).

The decision to use SIA as a method of data collection was influenced by a number of factors. First, it provided a form of entry into the practice setting which had the potential to offer valuable insights about key areas which the study aimed to address. Data could be related to specific pain care interventions, nurses could record and analyse the effect of the clinical environment on pain practice, and nurses could record the impact of course participation on specific pain events. For example, nurses were asked whether participation in the pain course affected their actions or behaviours. Answers to this question could provide inferences about the effectiveness of the course and identify the aspects which were most useful when applied to practice.

Second, illustrations from practice had the potential to contribute a particular practice perspective from participants, an important characteristic of a research study which had a focus on and in clinical practice. Furthermore the method can facilitate a level

of validity since it was based on real accounts from nurses' practice. Both Martin and Mitchell (2001) and Narayanasamy *et al.* (2004) endorse this approach to validity emphasising how the description of critical incidents are actual events concerned with the real world and can elicit a wealth of data based on these real accounts.

Third, the reflective process of writing the Significant Incident mirrors the broad principles of action research whereby learning involves reflection on action and was therefore congruent with the epistemological perspective which underpinned the study. The process of reflection describes the 'critical' component of the incident identified. Collins and Pieterse (2007: 18) describe how engaging with and exploring the incident elicits exploration of thoughts and feelings. In relation to the use of reflection in the Significant Incidents used in this study, Argyris and Schön (1974) provide the most applicable explanation of the benefits of reflection. They suggest that practioners choose their actions according to the situation, using theories that consist of a repertoire of experience, education, values, beliefs and past strategies. These surface on reflection upon performance or when one is confronted with a problem and has to think about the action to take. It can be argued that the ability to reflect would enable nurses to identify aspects of knowledge and skills used, or experiences drawn on, that influenced the actions or incidents they described.

Finally there were a number of practical yet important considerations that prompted the choice of Significant Incidents as a method for gathering data. From a practical perspective this method of data collection helped to overcome ethical and practical issues associated with direct practice observation (Narayanasamy and Owen 2001).

Perhaps, the most important feature within the context of this study was the limited researcher involvement in the data collection, a situation aided by the written format of the incidents. The nurses were also asked to record the Significant Incident as soon as possible after the event to ensure as much accurate recall of the event as possible. Jones (1995) maintains that when practice experience is fresh in participants' minds it reduces the risk of hindsight bias. In these respects, Significant Incidents provided data from a different perspective of the research than that obtained through interview and in this way incident reporting added to the depth of knowledge gained throughout the research.

4.6.7 Significant incident tool

Kemppainen (2001: 1265) suggests that when critical incident analysis is used within research, considerable latitude is given in design; however there are key characteristics which prevail when used for research. Emphasis is placed on the description of the phenomenon in naturalistic settings and there is a focus on the provision of solutions to practical problems. The nurses in this study were encouraged to examine pain related incidents that they participated in during the course of their every-day practice. It was important that nurses did not just focus on issues that were dramatic or negative but recorded incidents that represented a broader picture of their pain practice. The decision to use the term Significant Incident was an attempt to avoid any misinterpretation of the word 'critical' and its possible association with negative experiences. Additionally, the provision of clear instructions to the research participants for completing the SIA encouraged them to record a range of different events.

The guide for SIA was also designed to help participants be as specific as possible when describing the incidents. Flanagan (1954) advised that accuracy depended on the ability of the researcher in helping the participant to provide clear and concise descriptions. Francis (2004: 246) makes helpful reference to a 'scaffold' for transforming everyday incidents into a 'critical incident'. The guide was based on three areas of information; a description of the situation that led to the incident, the actions or behaviours of the main person involved in the incident and the results or outcomes of behavioural actions (Anderson and Wilson 1997: 90). A set of questions that reflected these three areas guided nurses through a process of structured reflection of the SIA chosen (Table 1).

Areas of information (Anderson and Wilson 1997:90)	Significant Incident Guide
Description of the situation that led to the incident.	1. What were the circumstances leading to the event?
Actions or behaviours of the main person involved in the incident.	2. What actions were taken? 3. What were the reasons behind the actions?
The results or outcomes of behavioural actions.	4. What was the outcome of the actions? 5. What helped or hindered actions? 6. In what way did participation in the pain course and/or research affect your actions or behaviours?

Table 1 This table explains the areas of information which guided the development of the Significant Incident Tool

Agreement was sought from participants to write a minimum of two Significant Incidents following completion Pain 1. In total, 30 different Incidents were recorded over the remaining timeframe of the study. One nurse completed one, ten nurses completed two and three nurses completed three Incidents. Descriptions and analysis of Incidents varied in both scope and depth. Incidents recorded included: nurses' review of patient focused encounters (n=25); revision of patient transfer arrangements (n=1); ward meetings to review post-operative pain advice (n=1); pain charting (n=1); use of patient controlled analgesia (n=1), and records of informal ward discussions about medical prescribing practices (n=1). The written Incidents were mostly detailed and comprehensively written and all parts of the guide were addressed. None of the Incidents lacked detail that would have them unusable, although two contained brief, though focused accounts.

4.6.8 Limitations of significant incident recording

It was important to be aware of possible limitations when using nurses' written accounts and the potential solutions for minimising these limitations. I would argue that the main consideration was connected primarily with validity, which is the extent to which Significant Incidents were a credible representation of the Incidents. For example, Dachelet *et al.* (1981) suggests that if the nurse was particularly sensitive to the critical incident described, there was the possibility of altering the facts of the incident. Another aspect of validity is whether the incidents contained sufficient information and critical comment to make them reliable sources of data. With specific reference to Incident recording Turunen *et al.* (2004) warns that descriptions can be general in nature and Kemppainen (2001) cautions against the use of incidents that are vague and lack specific detail. Furthermore, Martin and Mitchell

(2001) suggest the accuracy is dependant on memory and the ability to recollect specific incidents.

Flanagan (1954) makes two important observations in relation to these problems. He suggests that recall is good when incidents are recent and highlights the importance of how motivated individuals are to producing detailed observations and evaluations when the incident occurred. Reference has previously been made to the commitment of nurses who elected to participate in this study and this in part helped to ensure Significant Incidents were completed in sufficient detail. Importantly, the nurses themselves were also positive about the associated benefits that they experienced through reflection on Significant Incidents; this is explored further in Chapters 8.

4.7   DATA ANALYSIS

This section of the Chapter describes my approach to data analysis and theory development and sets out the procedures and techniques used for the analysis and interpretation of the research data. To aid description, the process of analysis is described in three phases, although in reality these were not precisely sequential. In qualitative research, it is accepted that data collection, analysis, and interpretation stand in reciprocal relationship with each other (Sandelowski 1995). In this respect, the phases described overlap procedurally and conceptually and did not wholly occur in the sequenced order described in this section.

Data analyses involves the break up or break down of data (Sandelowski 1995), and employs procedures to allow the researcher to work with the raw data. My main

approach to data analysis used the constant comparative method (Glaser and Strauss 1967, Strauss and Corbin 1990), a principle borrowed from grounded theory methodology. The reasons for choosing this approach, the method of application and limitations in relation to my study are discussed in the following sections.

The predominant reason for selecting the constant comparative method is that it provided me with a framework for analysis that applied guidelines for managing and interpreting the data. My approach to this is described later in this section. As indicated in Chapter 2, *a priori* view of the subject and what is relevant to the area of study can inform the phenomenon and the method of inquiry (Sandelowski 1993). Ideally, theory is then inductively derived from the study of the phenomenon it represents and in this way, is explicitly emergent (Strauss and Corbin 1990). In this respect, grounded theory and action research have similar intentions in that both approaches seek to understand the research context while being responsive to the situation in which the research is done.

Critics draw attention to the dangers of modifying an existing approach to meet the needs of a study and suggest that muddling approaches results in dilution and distortion of approach (Becker 1993, Wilson and Hutchinson 1996). However, equally persuasive proponents support researcher discretion with their analysis. Significantly, Strauss and Corbin (1998) emphasise the need for researchers to be innovative and to reflect their own research settings and not necessarily demonstrate a strict, mechanistic devotion to a pre-set method. Also advising against this mechanistic approach, Sandelowski (1995: 371) contends that placing emphasis on 'cookbook applications' of techniques are serious violations of the 'spirit of the

research'. Lathlean (2006: 422) agrees that using some of the stages or principles of grounded theory analysis is acceptable as long as this is acknowledged.

4.7.1 Phase one: familiarisation

My aim in the early phase of data analysis was to become familiar with the data as it was collected. All the data for this study was text based, consisting of verbatim transcriptions of group and individual interviews, SIA and my own personal research notes. Data familiarisation and processing began at the outset of the research when the first group interviews were completed. As data were collected throughout the timeframe of the research, I continued to familiarise myself with the data, a procedure that involved listening and re-listening to the taped interviews, reading transcripts and reviewing all the notes taken throughout the research. Although data processing was ongoing throughout, I continually returned to the original transcripts to gain an impression of research progress. Sandelowski (1995: 373) advices that each transcript should be reviewed and understood 'as a whole', and by doing so I was able to follow both group processes and individual stories which helped to provide me with initial (and, as it happens, sustaining) impressions of research progress. I will return to the significance of this later in this section.

4.7.2 Phase two: coding: concepts, categories and propositions

Corbin and Strauss (1990: 7) identify three basic elements of grounded theory as concepts, categories and hypothesis (propositions). Coding refers to the part of analysis that deals with the labelling and categorising of concepts (phenomena) that emerge from the data. Concepts are the basic units of analysis that are conceptualised from the data (Corbin and Strauss 1990). This process of labelling

and categorising concepts forms the basis of theory construction. From my perspective, identification of concepts was the stage of analysis whereby the development of a cycle between understanding and action, and action and understanding started to become apparent. In other words, both practical and propositional knowledge emerged from the data. To help develop concepts I was guided at each stage of the analysis by my research questions. For example, during analysis of the group interviews I sought answers to the following questions,

What do I think were the salient features of pain care reviewed by nurses?

What reasons were identified by nurses for pain care decisions and actions?

What did nurses identify as desirable outcomes for patients' pain care?

Why were these desirable outcomes?

What actions did nurses identify to improve aspects of pain care?

Why did they choose these actions?

What did nurses identify as desirable outcomes for their practice interventions?

What were the outcomes of these actions?

What actions were achieved (or possibilities realised) and why?

Which possibilities for action were not realised and why not?

Both 'what' and 'why' questions help me to make initial assumptions about practical and propositional knowledge. Subsequent analysis of data reviewed actions (or possibilities) that nurses took forward and the conditions under which these occurred.

My first attempts at coding and concept identification were quite descriptive, and were largely reflective of the raw data (and reflected my inexperience as a novice researcher). However by application of what is referred to as 'the comparative method', that is, the asking of questions such as 'what' and 'why', data was compared and similar incidents were grouped together and given the same conceptual label. As data analysis progressed, concepts became more refined as I compared similarities and differences in nurses' experiences, attitudes and circumstances. The next phase was to group concepts at a higher, more abstract level, referred to as categorising.

Categories are the second element of grounded theory defined by Corbin and Strauss (1990) and are higher in level and more abstract than the concepts they represent. These were developed through the same analytic process as concept development by making comparisons to highlight similarities and differences between categories. In this way, concepts that represented different understandings or action took on different forms, becoming more theoretical and less descriptive.

The categories were compared and contrasted to discover patterns, connections, expectations and discrepancies within and between group and participants' data sets. However, this activity did not attempt to achieve convergence or saturation of data; instead I looked for depth of data to explain nurses' experience of pain care and the research questions. For example, I was interested in what nurses' perceived as important knowledge for their pain practice and what accounted for the differences between the possibilities identified by nurses for influencing pain practice and any subsequent actions undertaken.

One of the challenges of action research is to understand and present the story or progression of events in a meaningful way. Koch and Kralik (2006: 33) further advise that analysis requires following a story's movement at an individual level and group level. In this respect I encountered some difficulties with the conceptual flow of the research (Marshall 2002) that mainly arose as a consequence of my analytic approach to the data. This problem and my solution occurred as follows.

 Most of the data was coded using NVivo, a qualitative analysis software package developed for use with qualitative research methods (Gibbs 2002). The transcripts were reviewed and each line, sentence or observation, were assigned one or more conceptual codes as previously described. While this helped to efficiently organise my data into concepts and categories, initially I ended up with transcripts that were fragmented into relatively small segments and there was a danger that the 'story' became lost. This is a recognised trap that researcher's fall into (Sandleowski 1995, Pawson 1996). Responding to this challenge, Coghlan and Casey (2001: 168) suggest that action researchers need to 'go with the story as it evolves'. It was helpful to return to personal notes collated after interviews and the original transcripts completed when initially familiarising myself with the data. This helped me to maintain the context of both group and interview accounts and the connections between the data and the research story as a whole.

The third stage of analysis was originally termed 'hypotheses' by Glaser and Strauss (1967) and indicate generalised relationships between a category and its concepts and between discrete categories. However, reference to tentative propositions, (Morse and Field 1996) rather than hypothesis, provides a more relevant description

of the explanations that developed from the data as relationships began to emerge between, nurses' attitudes, knowledge and actions.   Since action research is contextual and does not seek to identify the measured relationships suggested by a hypothesis, the term proposition is a more appropriate description of this stage of analysis.

4.7.3 Phase three: theory development

The end product of analysis is qualitative interpretation or the knowledge produced (Sandelowski 1995).   Although this signifies the last phase of analysis and interpretation in reality it occurs through iterative processes, in that theory is developed progressively and reflexively as the data are collected and analysed. Glaser (1978) suggests two main criteria for judging the adequacy of the emerging theory; that it fits the situation, and that it helps the people in the situation to make sense of their experience and to manage the situation better.   In this respect the parallels between grounded theory and action research are apparent, but it is also in this last phase that significant differences emerge.   Grounded theory is concerned with the construction and development of theory grounded in data (Glaser and Strauss 1967) whereas action research is concerned with the construction and development of practice interventions grounded in the data (Rolfe 1996).   Rolfe (1996: 1317) labels this as 'grounded practice' and although theory is constructed, it is the theory about the particular clinical context (s) that is being studied and cannot be separated from or generalised beyond the setting. Rolfe (1996) states,

> theory is still generated although it cannot be separated from
> the practice setting it was derived from and in this respect it
> is in effect a theory of practice. It has local relevance and is
> practical. (p. 1319)

In this regard the aim of the research was not to generalise conclusively, but was concerned with practice change and resulting practical and propositional knowledge that emerged as a consequence of action, recognising the uniqueness of the contexts in which knowledge was generated and action occurred. Furthermore, it has previously been established that the substantive position of theory in action research is subservient to construction and development of practice intervention.

4.8   CONCLUSION

In this Chapter I have described my approach to the research study and analysis of data. In action research the context is central to the story and I have provided a detailed account of the context (s) in which this study took place. In referring to context, I included the main participants who were the nurses who volunteered to take part in this study. The context also refers to the conditions that influenced the course of the research, and consists of the nurses' clinical environment and their participation in the pain units. Lastly, the context also refers to my position as teacher and researcher in the study. Each of these elements was integral to the study, affecting its design, the progress of the inquiry, analysis of findings and as will be seen in later chapters, the theory which emerged from the findings.

The approach to data collection was designed to complement action research inquiry as well as generating sufficient data. In this respect data methods were qualitative, participative and critical in nature. As the logic governing action research resembles that of reflection it follows that reflexive data collection methods were used to both obtain and analyse data. Although each method used within this study has its own merits and limitations, collectively they provided depth to the findings and provided a

progressive account of the inquiry which helped to illustrate the cyclic orientation of action research.

Data analysis was guided by the constant comparative method but retained a perspective which reflected the four stages of this action inquiry. The challenge was to select a robust approach to dealing with the data without compromising the connectiveness of the research cycle or the nurses' experiences of working through the cycle to influence or change practice.

Finally, theory was generated from the data but could not be separated from the context from which it was derived. In this way *theory of practice* is my preferred choice of term which describes practical and propositional knowledge that emerged from the analysis. The four chapters which follow present the findings that have emerged from the data and provide a basis for addressing the research questions posed in Chapter two.

Chapter 5 Inquiry into pain practice and potential for practice change

In this chapter, I review and evaluate the initial phases of the action research cycle; namely problem identification and planned interventions. Findings from the literature review in Chapter 2, and the phases of inquiry set out in Chapter 3, emphasise the value of practice review as a first step towards practice change. The Chapter is presented in three sections. In Section 5.1, I analyse nurses' beliefs about, and their perceptions of, pain assessment and management practices. Section 5.2, is concerned with problem identification. This section examines barriers to pain assessment and management, which nurses suggest, affects their ability to deliver evidence based pain care and adversely impacts on patient suffering. Section 5.3 reviews nurses' expectations of pain course participation and their proposed interventions for improving pain practices. This phase also reports on the predicted challenges of engaging in collective and in individual interventions to facilitate changes in pain care. I conclude by reviewing my findings and comment briefly on the extent to which these findings reflect the existing research reviewed in Chapter 2.

5.1 REVIEW OF CURRENT PRACTICE

The first phase of the inquiry, initiated a review of nurses' perceptions of pain assessment and management within their practice areas.

5.1.1 Initial impressions of pain management

Nurses' reviewed their impressions of pain assessment and management in the areas they worked. Differences in these initial perspectives were apparent between

nurses from different clinical areas. For example, theatre nurses in Group one, portrayed a positive impression of patients' pain control as they considered pain to be well managed within the context of their clinical speciality. Their following statements reflected this confidence:

> 1GI   We would never return a patient to the ward that was in pain.

> 1GI   It is pretty well managed in Theatre. The patients are usually
>   very comfortable on their return to the ward, it might take a
>   while to control their pain, but we usually manage to do it.

Despite these nurses' initial confidence of good pain practice, it was apparent that their criteria for satisfactory pain control did not always reflect the desired standard that patients would be pain free. In the two preceding extracts the use of phrases 'pretty well managed' and 'usually very comfortable' support this proposition. In the example that follows, theatre nurses continued to suggest that pain was well managed in theatre, but these observations were not wholly qualified by the expectation of pain free status for patients:

> 1GI   We never send them back up to the ward if they are in pain,
>   we always make sure, well, within the range of the analgesia
>   they have had, you always do try, if they are complaining you
>   do try.

This comment reflects nurses' beliefs that administration of prescribed analgesia, rather than the pain free status of the patient constituted nurses' criteria for effective pain management. As other nurses identified in discussion their experience of patients' post-operative pain, theatre nurses did concede that some patients were not always, pain free when they left theatre and transferred to their wards. Theatre nurses acknowledged that although patients may have been administered their prescribed analgesia this did not always result in pain free experiences for patients. This perception was inconsistent with their initial observations that immediate post-

operative pain was consistently well managed. The following extract reveals this predicament with a theatre nurse conceding that patient pain can persist; furthermore, she felt disempowered by this situation:

> 1GI We say as much as we can and we keep on saying it, but if they [the anaesthetists] are adamant that that's it, 'they have had their lot', we just can't do any more. But we are not happy when the patients go back in pain and neither are the ward staff obviously.

The initial expressions of confidence from theatre nurses about the degree to which pain was managed did not reflect the views of the other nurses who represented other clinical specialities. Only one recently qualified surgical nurse from Group 2 expressed similar opinions, suggesting that she had never seen anybody in pain go untreated within an acute setting. However, responses from the remaining nurses across both groups were less than confident and nurses found it difficult to make an accurate judgement about the effectiveness of pain management. It was also evident that their perceptions of pain relief did not reflect the ideal position that patients would be pain free, nor indeed did nurses appear to hold this expectation. The following observations from each of the groups reveal a degree of acceptance about this position:

> 1GI I think, would you say it was pretty well managed? It's not perfect but it's not barbaric either. I don't think there is too many people rolling about screaming but then…

> [Interviewer] How well do you think pain is controlled in your area in terms of optimum?
> 2GI Halfway probably, better than most, I would like to think so anyway.

Observations from nurses in both groups suggest a degree of expectation that patients would not or could not be pain free all of the time. However, contradictions about the patient experience were apparent when nurses' discussed how pain

management approaches could differ according to the patients' condition and the clinical speciality. Nurses identified particular situations where they perceived pain care to be better managed. Both groups identified palliative pain care as one of the better examples where they suggested consistent approaches resulted in better pain care. Input from nurse specialists was said to contribute to better pain outcomes. Significantly, nurses discussed palliative pain management from a holistic viewpoint, a perspective they did not relate to other pain conditions identified.

A further example of a situation where pain was considered to be well managed was in a high dependency environment. Two medical nurses from Group 1 suggested that untreated and worsening cardiac pain was symptomatic of potentially life threatening situations. The approach to pain management in this instance would normally be guided by a recognised set of protocols as described.

> 1G1   You've got the high dependency unit and anyone there who has had a heart attack or has angina would not be left with pain because they could go into carcinogenic shock. So there is a set protocols to relieve the pain …and they are proficient at that.

These examples suggest that approaches to pain management were more consistent when the origin of pain symptoms and its consequences were perceived as having a more significant impact on the patients' illness or recovery opportunities. A further example from Group 2 reflects a similar belief. Nurses described how there was an expectation that pain would be managed effectively throughout the post-operative recovery period, acknowledging that untreated pain had the potential to prolong the patients' recovery. However, in the example that follows, there appears to be an element of uncertainty about the actual patient experience. A nurse

suggested that expectations about effective pain control did not always reflect that reality for the patient.

> 2G1   I think it is generally accepted that supposedly the pain they have post-op from surgery, that it should be well controlled and they shouldn't have any problems with it…but that is not always what happens.

It is evident that even when there was an expectation that patients would be pain free, this was not always reflected in their experience. Nurses from both groups were able to recall occasions where they observed circumstances where patients' pain problems were clearly not resolved. These included, instances where patients were discharged from hospital with unresolved pain, and like the previous example, situations where patients were assured freedom of pain, but this had not always been reflected in the actual patient experience.

The initial observations about pain care reviewed by nurses in the pre-course interviews presented an uncertain and somewhat contradictory perspective of their observations, beliefs and expectations about the patients' pain experience. Although nurses agreed with the principle that patients' should be pain free, their observations suggest some acceptance of the position that this was not always possible nor expected. However, despite these mixed expectations, all nurses conceded that pain care could be improved. This was most graphically expressed by a surgical nurse, who suggested that practice difficulties resulted in unresolved pain for the patient and failure of the nurse to respond appropriately.

> 1GI   We have patients who come back to the ward and they are sore all the way there, so I know that you are failing in spite of what you believe. I know I am failing every day I come to work.

Having gained a preliminary impression of how nurses viewed pain care, the following sections consider their impressions of more focused interventions to assess and manage pain.

5.1.2 Approaches to pain assessment

The consensus in the literature is that good pain assessment is regarded as the fundamental starting point for effective pain management (de Rond *et al* 1999, Carr and Mann 2000). A fuller and more accurate picture of pain practices was achieved by obtaining a perspective of nurses' approach to pain assessment and their impression of the way this was implemented in their clinical areas. Nurses were asked about their methods for pain assessment and subsequently reported using a wide range of approaches. Nurses from Group 1 discussed how they based part of their assessment on the patient diagnosis or the predicted pain associated with a procedure. For example, assumptions were made about the degree of pain patients were expected to experience after surgical procedures:

> 1GI   A patients' pain can be determined by what they have been
>   through, the surgery they have had and what they have still
>   got to go through.

Nurses from both groups reviewed examples of more specific criteria which informed their pain assessment and identified a variety of information sources used to help build up a picture of patients' pain. Examples included patient histories, pain types, comparisons of vital observations and general physical assessments. None of these approaches however, were described in detail and an emphasis on unidimensional pain assessment was apparent. Only one recently qualified nurse described a more comprehensive approach to the way she assessed pain and significantly gave credence to the patients' opinion:

> 2G1 I think the main thing is, ask the patient if they are in pain
> and look at how they are looking and how their posture is
> and just how they are behaving as well as what they are
> telling you…and I suppose even pulse blood pressure and
> temperature.

While the nurse makes clear reference to cues provided by the patients' posture, the majority of nurses did not make specific mention of pain behavioural cues that would have signalled the possibility of pain problems. Four nurses gave vague descriptions of behaviours that would alert them to patients' pain, suggesting that they were guided by their own observations of the degree of discomfort the patient appeared to be experiencing. This subjective interpretation of pain can be illustrated by the following statement made by one of the more experienced nurses in Group 2:

> 2GI If they are uncomfortable you can just tell by looking at them
> usually if they are pale or if they look unusual and they will
> ask you for pain relief.

Both groups of nurses indicated that they relied on their own observational skills and interpretation of the patients' body language, even although they were not able to verbalise specific observable behaviours that may indicate the patient was in pain. Nurses explained how their ability to interpret accurately these pain behaviours was determined by a range of conditions that developed over time; in particular, nursing experience was identified as an advantage when using patient behavioural cues to assess pain. Furthermore, experience resulted in familiarity with patient conditions, expected patient behaviours, and what nurses believed to be the most effective pain relief treatment for these conditions.

There was the sense that nurses were assured that their experience which helped to develop particular frames of reference and expectations about pain were largely pre-determined and not necessarily influenced by individual patient circumstances. The

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following statement reflects the view that experience, determined by time spent in clinical practice, helped this medical nurse to interpret patient behaviour and establish patients' pain levels. She emphasised confidence in her own interpretation of the patients' condition rather than the patients' own perspective.

> 2GI In a lot of cases, I think it's years of experience and recognising body language and all the rest of it. Using all that, I have a fair idea if a patient is in pain.

Nurses who had spent more time in clinical practice agreed that this was an advantage to them, a position also recognised by two nurses who had qualified within the past two years and acknowledged the benefits of working alongside experienced colleagues. For instance, a recently qualified nurse discussed how she found that assessing alongside an experienced person gave her confidence, helped her to determine patients' pain intensity and the level of required analgesia.

Nurses from both groups did acknowledge that asking patients directly about their pain was a strategy they recognised as providing them with a good source of information about patients' pain. There was however, limited evidence in the examples nurses gave that they valued patients' reports over other sources of information. The exceptions to this were the theatre nurses from Group 1 who described their indirect approach to pain assessment, where patients' level of general comfort was first ascertained before inquiring about pain status. They explained that one of the anaesthetists discouraged direct reference to pain, based on his belief that this may act as a trigger, which consciously alerted the patient to the pain.

All nurses agreed that verbal questioning to elicit pain responses from patients was appropriate, and they appeared to place more reliance on the patient themselves to initiate a pain complaint. This was identified as the most commonly reported approach to pain assessment by both groups, and there was confidence expressed in the belief that patients' would report their own pain. A day surgery nurse was confident that patients were pain free post-operatively, if they did not respond in the affirmative to inquiries about pain.

> 2GI   If you are looking after a group of patients then you want to make sure that they are pain free and you do ask them when they come back from Theatre. You ask them if they are sore and then normally if they are not sore they just fall asleep.

The frequency with which nurses stated they assessed patients' pain was notably varied. While theatre nurses reported carrying out pain assessments on all their patients in the immediate recovery phase, other nurses did not indicate that regular assessment would be normal practice in their clinical areas. For example, the importance of patients being free from pain during the immediate post-operative period was recognised by nurses working in surgical areas. But even in this situation where sustained pain relief was regarded as a priority for patient recovery, nurses from both groups acknowledged that formal pain assessments were infrequently performed. A day surgery nurse illustrated this inconsistency.

> 2GI   Because we work in day surgery we have to make them relatively pain free before they go home. But we don't generally go round a lot of the patients and ask them if they are sore, I don't think it is done as a rule.

A contradictory picture of practice is evident in this statement, where the nurse assumed the patient was pain free but did not verify this with patients.

5.1.3 Use of protocols, guidelines and pain tools

The extensive range of protocols, guidelines and pain tools that are available to guide pain assessment practices, can provide nurses with evidenced based sources to direct their practice (refer to section 2.3). Awareness of evidence based information and a willingness to use these would suggest that nurses approached pain care in an informed and systematic way. Use or lack of use, of evidence sources also provides some indication of the efficacy of pain practices.

When asked about the use of pain protocols or guidelines, responses from both groups suggested that nurses were largely unaware of their existence. A nurse from Group 2 was aware that pain guidelines were included in the care pathways for patients with chest pain or head injury. However, failure to explain clearly their application suggested unfamiliarity with the guidelines. Nurses made some reference to pain guidelines in palliative care situations, a clinical speciality earlier exemplified by good pain practices. However, even in this respect, the nurse was so vague about the nature and application of guidelines that it was difficult to ascertain whether or not they were in use. Another medical nurse recalled seeing a copy of the 'analgesic ladder' on her ward but was clearly not familiar with its purpose or practice application. The following observations were representative of the nature of responses to this issue:

> 1GI   I am not sure if there is one [analgesic ladder] in general use
> I'm sure there is something, but it doesn't get used.

> 2GI   We don't have any pain protocols or guidelines in my area at
> all that I am aware of.

From these responses, it was also evident that nurses' clinical areas did not promote the use of protocols and guidelines to guide pain assessment and management

practices. The nurses' limited use of guidelines reflects research findings that continue to report how guidelines have been slow to change practice behaviour (Pasero and McCaffery 2004). One nurse confirmed that clinical pain guidelines were available in her ward but she believed that no one read them, nor had the time to do so. There was a consensus by nurses that they were too busy to locate and read pain guidelines. This finding has been recognised as a barrier for interpreting evidence based knowledge in practice (Gerrish and Clayton 2004, Rycroft-Malone 2006).

Theatre was the only area where there appeared to be consistent use of a tool, which was a numerical rating scale pre-printed onto patients' care plans. In this instance, nurses said that pain scores were routinely assessed and recorded at regular intervals. It was noteworthy that this observation partly contradicted nurses' assertions about the one of the anaesthetists discouraging direct patient questioning. Apart from nurses who worked in theatre, none of the other nurses regularly used pain tools for pain assessment.

All participants were aware of the existence of pain measurement tools, but with the exception of theatre nurses, spoke about their use in vague terms. The potential application of pain tools was reviewed in both group discussions; however nurses' explanations were confusing and inaccurate, indicating limited understanding of tools, a situation exemplified by the following observation.

> 1GI We have pain assessment charts which are probably something along the lines of the scoring on a scale of 0-10 and ones that even sometimes the patients can fill in. We can use them, but we tend not to use them except on the odd occasions.

Thus when pain tools were available, there was no evidence of routine, consistent use in any clinical settings other than theatre. While the value of recording routine baseline observations like pulse and temperature were seen as routine and essential, charting pain scores was not.

There were examples where nurses suggested that failure to use pain measurement tools might have contributed to incorrect reporting of patients' pain and poor pain control. One consequence of the absence of pain tools led nurses in Group 1 to concur that this probably resulted in over dependence on the nurses' individual interpretations of patients' pain. A nurse from Group 1 highlighted the inadequacy of this situation when different interpretations and a reliance on the nurses' personal judgement resulted in an inaccurate and confusing account of the patients' pain experience.

> 1G1　If we are assessing somebody's pain when we have just come on duty and the person on the early shift has maybe got a completely different ideas of that pain. Then it is difficult to actually know what your assessment is, what the difference is between her assessment and your assessment, if you don't have a tool that you use.

Although similar consistency problems were highlighted in both groups, in this early phase of research, nurses were not enthusiastic about the need for pain tools, nor were they convinced of their value. Nurses believed that assessment tools were time consuming and use was not always indicated with every patient. It is significant that these judgements were made even although nurses demonstrated limited knowledge and application of pain tools. Despite observations that pain assessment practices were inconsistent without the use of pain tools, nurses continued to place their confidence in more general approaches to pain assessment, mainly suggesting

observational skills and information derived from patient documentation was equally informative. For example, this nurse confidently elaborated on a range of sources used to collect and transmit information about a patients' pain. Furthermore, she suggested that this helped to provide an objective perspective of the patients' pain even though no mention is made of the patients' own report.

> 2GI It can be sufficient to be passing on to your colleagues at the end of the shift that they had the pain. You are looking at the recordings and the signatures on the PRN[2] area of your chart, you are seeing that this person needed analgesia as required for pain. Well in a way you wouldn't need a pain assessment tool if you were going to look at that objectively and say 'well this is telling us something'.

In this section, I reviewed participants' perception of pain assessment and management. The following key points summarise the main findings:

- Nurses reported that patients do experience unrelieved pain.

- Nurses did not hold expectations that all patients would be consistently free of pain.

- There was limited knowledge and use of evidence based resources such as pain assessment tools.

- When assessing pain, nurses' prioritised, patient diagnosis, nursing observation skills and tacit knowledge over objective measures of pain assessment and the patients' own report.

5.2   REVIEW OF PAIN CARE PROBLEMS

Following on from the initial exploration of pain practice, this section describes nurses' concerns about pain assessment and management practices. A range of problems were identified with the methods used to assess and manage pain and the

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[2]*Pro re nata (PRN)* is commonly used on drug prescribing sheets to mean 'as needed'

organisational structures to support these activities. Problems were attributed to nurses' own practices, but more frequently to the practice of others. The issues identified at this stage were commonly recognised by both groups and, to a great extent, were congruent with nurses initial observations reported earlier in this chapter.

5.2.1 Inconsistent approach to pain assessment

Failure to report on consistent approaches to pain assessment and management and the potential effect on patients' pain experience caused some unease in both groups. Nurses did recognise that causes of inconsistent practice were mainly attributed to individual practitioner interpretations of patients' pain. A nurse described how this situation transpires.

> 2GI   For instance, one nurse can say that 'the pain isn't severe,
> they had no pain today' and then someone will come in and
> say, 'oh they are, they are in pain, I asked them, and they
> said so'.

Nurses in Group 1 described similar concerns suggesting that one patient would have well controlled pain and another in the next bed not controlled at all. They suggested this was dependant on the individual who was responsible for the care of the patient and their interpretation of the pain information.

Nurses felt that their ability to participate in consistent pain assessment was compromised by lack of time spent with their patients and because different nurses and health care workers were often involved in care delivery. Consequently a nurse from each group illustrated how failure to implement a more collaborative and cohesive approach to pain care resulted in superficial pain assessment.

> 1GI   You are only coming into contact with some of your patients

> briefly, you are not involved closely with all of them on one shift but somebody else may be…but maybe nobody is really responsible for looking and paying much attention to them.

> 2GI On a busy ward it is really hard I think to assess someone's pain properly unless you spend time with them…It's a bit of a lottery sometimes.

Although the nurses' key concern reflected lack of available time spent with patients, there was also an indication that the way patient care was organised contributed to superficial pain assessment. This was evident in the way in which nurses' work was structured, with limited evidence to suggest that the primary responsibility for patients' pain care resided with a named nurse. One of the implications was the failure to establish clear areas of accountability for carrying out patients' pain assessment.   As a result, assessment and consequently pain management decisions were described as inconsistent and 'ad hoc'.   The following extracts illustrate the outcomes of this situation.

> 2GI But when you have got three or four different people who might bump into this patient during the course of a shift, of the three or four people, maybe two of them have the same attitude or approach and the same method for deciding what's do be done and what's not.

> 1GI If you are depending, relying on a random act like somebody deciding to mention something, like someone is not having their pain controlled in passing, that is going to be your basis for making decisions?

Both these examples suggest a 'hit and miss' approach to pain assessment pervades practice and implies lack accountability for the implementation of pain assessment. Furthermore, lack of pain assessment highlights the risk of patients not having their pain complaints addressed. Similarly, Manias *et al.* (2004) also made reference to the opportunistic and simplistic approach to pain management. Using other examples the nurses described how they encountered new pain problems by

chance when they found themselves delivering aspects of care that allowed them to spend some time with the patient.

It was apparent that lack of time spent with patients meant that nurses interacted with their patients at a fairly superficial level, even when the patients' pain could have been the focus of that interaction. For example, routine practices like drug rounds helped to ensure that patients were asked about their pain, but nurses admitted that neither follow-up nor review was consistently undertaken outwith the drug round. This is illustrated in the following account.

> 1GI   I know what it is like even from doing drugs round the ward.
> 'Are you in any pain? 'Oh not really,' 'well I will come back to
> you' and you never go back.

This nurse had been quite open about her intentions to review pain with the patient, but then failing to see that through. Although not all nurses admitted to doing this, there was evidence of decreased accountability for ensuring patients' were regularly reviewed for pain. This day surgery nurse describes a missed opportunity when patients are given their pain medication but are not assessed nor given clear instruction prior to discharge.

> 2GI   But I think of the busy ward and why you would miss
> situations, by not sitting and spending time with them to find
> how they are. You are only giving out the prescriptions,
> getting the medicines and that is what we do in the day case
> unit. We don't sit and ask them…they just get the
> medication.

Lack of time and limited patient contact were identified as barriers to patient communication. However, even when opportunities were available to review the patients' pain condition or provide them with information which may help them to manage pain more effectively, full advantage was not taken of these opportunities.

5.2.2 Inconsistent approach to pain management

Nurses' review of approaches to pain management also identified a range of practice inconsistencies that compromised treatment of patients' pain.   Ineffective pain interventions in these situations were attributed to patients receiving inappropriate or ill timed analgesia, or maximum amounts of prescribed analgesia dispensed without achieving desired therapeutic effect.   Nurses from both groups indicated reluctance on their own part and that of others to administer analgesia when patients were frail and presented with multiple medical conditions.   Nurses suggested this prompted a cautious and restrained approach to pain control interventions.

Inconsistent and inadequate drug prescribing practices was another area where nurses' expressed particular concerns.   They suggested that as a consequence, patients' experienced pain that could have been rectified with adequate and timely prescribed analgesia.   As nurses identified situations where lack of prescription was a problem, there was a sense that the root cause was attributable to medical staff and their prescribing practices.   For example, nurses identified poor medical consensus about decisions regarding pain interventions and a perceived failure by medical staff to reach treatment decisions and prescribe appropriately.   The following extract from a medical nurse describes circumstances where problems of consensus led to a poor outcome for the patient.   The nurses' description of events also suggests that their own intervention in the situation was limited.

> 1GI   We had a patient on our ward he was in for two weeks with the same pain and one doctor bouncing off another. They had a 'well it's your problem' type of attitude to each other and 'we can't do anything', we can only give what the doctors will write up for the patient. So in that instance the patients' pain was not controlled at all because they did not sort out the prescribing.

Both groups attributed treatment delays to failure of doctors to write up pain prescriptions and the common practice of prescribing analgesia on a PRN basis. An experienced nurse from Group 2 described how she had to remind doctors not to prescribe on PRN analgesia. She subsequently spent time ensuring prescriptions were correctly written even although she regarded this as an area of medical responsibility. A common perception was shared by all the nurses that pain management was not really their responsibility, because the doctors prescribed analgesic drugs. Twycross (2002) also suggested that this perception held by nurses contributed to unnecessary pain.

The individual approaches of doctors to pain management were also identified as a factor that contributed to ineffective pain relief. Whilst there were observations about the tendency of doctors to adopt and adhere to their favoured methods for managing pain, of key concern were different approaches used by anaesthetists. In particular, in the following extracts, theatre nurses suggest that their ability to deliver good pain care directly reflected the anaesthetists' prescribing practice. As a result they suggested that there were variations in the patients' experience.

> 1GI   It all depends upon which anaesthetist is working that day, I
>   would say with regards to how well their pain is controlled.

> 1GI   I would say it [pain control] was variable…dependent upon
>   the anaesthetist and what method they have used.

A discussion about the effectiveness of pre-medication prior to surgery also highlighted this problem. Concern was raised about the practice of some anaesthetists to not prescribe pre-medication and the effects of this both on

increased patient anxiety levels pre-operatively and increased pain levels and restlessness post-operatively.

Nurses from both groups were able to recall examples of poor prescribing, highlighting it as a medical 'failure'. Central to these examples was their dependence on doctors to assess and manage their patients by ensuring analgesia, or pre-medication had been prescribed. Failure of doctors to fulfil this expectation left nurses in a position where their capacity to help patients was reduced and perhaps most significantly, nurses reflected on their lack of authority to challenge this situation. There was mostly consensus with the perspective that the nurses had limited authority to intervene with prescribing decisions. One exception was a senior nurse from Group 2. Although she acknowledged limitations of her role she emphasised, more than others, the responsibility she had for assessing the patient and communicating the results to the doctors and ensuring appropriate action was taken. This perspective was not shared by the rest of her group who, even when challenged by her, reasserted their limitations to influence patients' pain treatments.

5.2.3 Patient barriers to pain care

Both groups of nurses identified patient barriers that reduced or obstructed efforts at pain assessment and management. It was notable that all nurses spoke in some detail about the challenges presented by patients for delivering effective pain care. A variety of patient behaviours were identified which nurses' suggested, prohibited accurate assessment. These behaviours included patients' reluctance to report pain and lack of demonstrable pain behaviours to alert nurses to problems of pain control.

In the following example, a nurse struggles to reconcile the patients' pain report with her observation of the patients' behaviour.

> 1GI   I recently saw a woman who was chatting away to her relatives…the relatives went away…and she was wincing and curled up in pain and said ' I must have something for this pain…' and the relatives came back in again and she was fine. It's so difficult to judge …I said when I asked her on a scale of 1-10, she said 9, but she was quite happy to sit with daughter and son in law and talk about the kids. I think it is really difficult.

The patients' physical condition was identified as a further barrier, particularly when this affected their ability to communicate pain problems. For example, medical nurses said they commonly struggled with patients who sustained a stroke as they presented with particular challenges that also differed between patients. Problems with receptive and expressive dysphasia as a consequence of the stroke potentially contributed to complex communication difficulties.

All nurses spoke about the challenges associated with the age of patients, with an emphasis on particular challenges with some of the older patients. There was a commonly held perception that older patients could be more stoic and were therefore less inclined to admit they were in pain. Nurses also surmised that some patients would prefer to be discharged home rather than have their stay in hospital prolonged with unresolved pain problems. For example, nurses in Group 1 suggested identified some patients with chest pain as providing unique challenges. The two medical nurses from Group 1 suggested that some patients feared the consequences of a cardiac diagnosis and the effect this diagnosis could have on their lifestyles and particularly worklife. It was noteworthy that nurses in this medical speciality nursed a significant number of men who worked in off-shore industries and were dependant

upon medical fitness to continue working. They were also aware that some younger patients were reluctant to accept that they had cardiac disease and had played down the significance of their chest pain. Nurses concluded that the reluctance of patients to admit the extent or duration of chest pain could make assessment and treatment difficult. This observation by the nurses contradicted their confidence that patients would report pain and request pain relief interventions.

5.2.4 Practice barriers to pain care

Practice barriers refer to the concerns that nurses attributed to their practice settings, which they suggested could limit effective pain assessment and management. These barriers included: the attitudes and practice of colleagues, the challenges posed by the practice environments, failure to adopt procedures for documenting pain care and failure of the organisation to prioritise pain care.

All nurses were critical of a range of diverse attitudes and beliefs portrayed by colleagues. For example, negative attitudes displayed by nursing colleagues were identified as a feature that influenced patients' reluctance to complain about pain. Nurses from both groups described unhelpful and intimidating attitudes displayed by nursing colleagues who, they felt discouraged patients from vocalising pain complaints.

> 2GI I think it depends on the nurse as well. Some people will say 'you are not sore are you?' In other words, 'don't dare tell me you are'…you automatically are going to say 'I am fine' to someone like that…you can have folk that are quite abrasive and scare patients off.

Nurses recounted examples of discussions from ward reports where the patients' complaints of pain were examined or judged by nurses who were not always

convinced they were genuine or accurate. Failure of nurses to believe the patients' report was highlighted by the nurses as a collective concern and contradicts McCafferys' (1983) definition of pain being 'whatever the experiencing person says it is and existing where they say it does'.

> 1GI   It's not every nurse who believes that they have got pain when they say they have got pain…some will say that they [the patient] doesn't and ignore it really.

Nurses levied further criticisms at some of their colleagues, suggesting that they were at times reluctant to administer regular pain relief to their patients and postponed administration of analgesia. A surgical nurse from Group 2 suggested this occurred in her area despite the fact that she considered some nurses demonstrated good practice by administering pain relief on a regular basis, yet all the nurses did not consistently reflect this good practice.

Patient advocacy was also difficult for two of the more recently qualified nurses who felt unable to challenge their nursing colleagues about poor pain practice. They described further difficulties when they felt that more senior nursing colleagues failed to pursue solutions for patients with unresolved pain. Additionally they described situations where they expressed concern about patients' pain, but their requests for additional pain relief measures were disregarded by more senior nurses. The recently qualified nurses found it more difficult to stand up and challenge colleagues in these situations.

Similar criticisms to those just described were levelled at medical staff. Nurses asserted that doctors gave more credence to their personal expectations of pain

presentations than to the actual report from the patient or the nurse. The frustration arising from this situation is clear in the following extract:

> 1GI   They have too much faith in their practice and their methods and too little faith in the patients' experience and their report…I think we've all probably heard it anyway, 'they [the patient] shouldn't have pain they have had'…They [the doctor] can take it as a personal affront to be questioned.

Doctors were criticised as failing to consider the complete patient experience. Discussion about doctors' practices from both groups suggested that pain assessment and subsequent prescribing reflected doctors' expectations of pain associated with procedures and patient conditions, and the expected level of pain relief achieved with prescription. All nurses suggested that medical staff were not so influenced by individual patient complaints.   Furthermore, doctors were seen to operate from diverse perspectives that included different values, priorities, and ways of working with patients. For example, theatre nurses from Group 1 attributed some prescribing inconsistencies to the individual backgrounds of anaesthetists.   They also suggested that pain relief might be a lesser priority for the anaesthetist in relation to what was perceived as the more critical function of supporting the patient through surgery.

> 1GI   Having anaesthetic can be life threatening, so for the anaesthetists who are in charge for pain control for 48 hours post-op it's chicken feed to worry about pain.

Nurses described examples where doctors' input into pain relief was required but not forthcoming when requested.   When nurses reported patient pain complaints to medical staff, they suggested that these were not always responded to quickly. Untreated pain was sometimes viewed as a consequence of inadequate prescribing, compounded by other factors that contributed to treatment delays.   Causes were attributed to delays in medical consultation and nurses recalled circumstances where

patients had to wait for pain relief or were left untreated. Significantly, in my findings there was a sense that the nurses' capacity to respond to the patient was also constrained by lack of medical response.

> 1GI   We recently had a patient who had GI surgery…the acute pain from surgery wasn't adequately controlled because there was a lapse between the epidural running out and the PCA (patient controlled analgesia) being brought up to the correct level. Although the patient complained they were being assured they were getting all they could get …yet it took 12 hours maybe before somebody came along to review it in spite of being asked earlier.

Difficulties were identified when doctors did not respond to nurses' reports of patients' pain, even although nurses felt that they had noted the pain complaint, and communicated it appropriately. Nurses described circumstances where resultant communication breakdowns and the inconsistent responses of doctors prolonged or compounded patient suffering.

> 1G1   You notice something and report it, document it and pass it on. You could go on days off and come back and the situation really hasn't improved. That doesn't happen in every situation but it can happen. So maybe there has been unnecessary suffering for too long before they act on it in some cases, not in all.

The frustration nurses expressed regarding this situation was apparent and suggests a limited ability to proceed with treatment until the doctor consulted with the patient, as described by this medical nurse:

> 1G1   You have got to wait maybe to do anything…you have to explain to them that they aren't allowed to have anything until they have been examined, until the doctor can see how sore they are.

Underlying all the examples given here is the reliance on medical staff to take action and resolve the pain problem and the sense of powerlessness experienced by nurses when this does not happen. The central role and influence medical staff had

in controlling key aspects of pain care suggested that nurses' felt that their ability to act advocate for the patient was limited.

Theatre nurses who had felt most confident about their input into pain management suggested that they were also constrained by the key role of the anaesthetist. The decision to prescribe and administer analgesia was the anaesthetists' responsibility and the success of treatment was viewed as dependant on these decisions.

> 1GI   I suppose it just depends on the anaesthetist. We can give them the best and we can give them probably the poorest depending on the anaesthetist.

Again this account demonstrates a certain inability on the part of the nurse to influence pain decisions. The way that nurses described their limited contribution to pain assessment and management mainly contradicts the role descriptions reviewed in Chapter 2. The literature is in agreement that nurses should have key roles in pain care (Clarke *et al.* 1996, Nash *et al.* 1999, BPS 2003), and my findings found that nurses did wholly regard pain care as their responsibility.

The varied and ever changing practice environment was also highlighted as a factor that made consistent approaches to pain practice difficult. For example, problems arose where nurses worked in wards where patients presented with a variety of different conditions and care needs. Excluding nurses who worked in day surgery and theatre, all others worked in clinical areas that had a diverse patient population in respect of their diagnosis and potential pain problems. For example, one ward had beds for patients who were terminally ill, patients with cardiac diagnosis and elderly patients awaiting transfer into care facilities. Another ward contained beds for surgical adults, children and day surgery patients. Nurses from these areas spoke

about the challenges of nursing patients with diverse conditions and pain care requirements.

Increased use of surgical day care posed particular challenges for nurses in both groups. Patients were discharged at the end of the day when day units closed down and nurses suggested that on occasions medical staff were reluctant to prescribe strong analgesia as this resulted in delayed discharge. There was a perception that the requirement to empty the day unit could take priority over the patients' condition. For example, theatre nurses in Group 1 suggested that the decision to prescribe strong analgesia such as pethidine may be influenced by the day case status of the patient. A nurse from Group 2 described difficulties she had encountered when additional analgesia was requested for day patients. Consequently, the nurse could be left trying to find a bed in another area of the hospital for the patient. Not only was this problematic, but also was an unpopular option within the organisation. A day surgery nurse described a situation where she forced a delayed discharge for a patient, clearly without medical support.

> 2GI We had a girl…she was in agony…in as day case. She was meant to be discharged that day, she couldn't weight-bear. I had got the doctor who popped her head in, never went over to her. She wanted her to go home, I said she couldn't go, but then I had to find a bed for her that night.

A further practice barrier concerned the lack of documented evidence to record pain information. Failure to adopt a consistent approach to documentation of care meant that patient' complaints of pain, instigation of treatments and outcomes were not clearly recorded in patients' notes. All nurses acknowledged there was a general problem with nursing documentation including pain records, notably this had the potential to cause difficulties with communication between key people involved in

patient care. Even when pain documentation was available, it appeared to have limited effect. One nurse suggested that even if initial pain documentation was completed in the form of pre-printed care plans, it was not referred to thereafter.

> 1GI   If we realise they have pain when they come in, we pull out this nursing problem care thing, a care plan sheet from the folder. Put it into the persons care plan and number it as one of the nursing problems…yes that gives you a plan, you put the date on it and you don't see it till a fortnight afterwards.

Only the senior nurse from Group 2 described consistent practice where pain problems were recorded and documented in patient notes. As a ward sister, she had more input and control over standards of documentation in her clinical area. However, she also identified shortcomings with this system suggesting that information recorded about patients' pain was still not comprehensive enough. Despite, nurses' relative lack of enthusiasm about the pain tools, they nevertheless identified lack of standardised pain assessment tools as a contributory factor to poor pain records. However, whilst nurses partly attributed inconsistent pain care to poor pain documentation practices, there was a general concern that nurses were already suffering from documentation overload. The contradiction was apparent in both groups, between the need to improve documentation and the reluctance to increase the writing burdens of nurses.

A further contextual problem concerned the perceived lack of organisational emphasis on pain care that was seen to contribute to some of the problems encountered in practice. The nurses represented four different hospitals across two Health Board areas, yet none of these organisations appeared to lay specific emphasis on pain audit. Nurses from Group 2 suggested that lack of emphasis by organisations on pain assessment and management meant that pain had not been

established as an area of priority. They compared this to other areas of national priority that were audited, like pressure care and nutrition, and suggested that lack of similar focus on pain meant that organisations were not forced into the situation where they had to prioritise pain as a concern or target as an area for improvement. Reflecting on the relatively low profile of pain, a nurse from Group 2 suggested that the lack of documented information and audit evidence concealed pain problems in clinical practice. Reporting on a study on the influence of organisations on pain management practices, Alley (2001) concluded that nurses' knowledge of pain management and their perceived accountability was also linked to organisational policy.

This section reviewed a range of problems that nurses identified as constituting barriers to good pain practice. These can be summarised as:

- Organisation of care delivery did not help to promote a systematic or comprehensive approach to pain assessment.

- Inconsistent pain management was largely attributed to doctors' practice.

- Nurses had limited scope to act autonomously to relieve patients' pain.

- Patients may be unable or unwilling to report the true extent of their pain.

- Changes in care delivery systems i.e. increased use of day care focused priority on rapid patient discharge.

- Paucity of pain information in patients' records.

- Lack of emphasis by organisation on good practice

5.3 IDENTIFICATION OF PRACTICE INTERVENTIONS

The next stage of the exploratory phase of the study involved nurses in identification of areas of pain care they wanted to change. My initial expectations of this phase of the study was that this would be a straightforward process as nurses could identify some preliminary changes and consider their implementation in practice. Progress would be subsequently evaluated at different stages throughout the action research cycle. The reality was somewhat more complex, and although possibilities for action were identified, differences were apparent between each group and between the individual nurses in the groups. These differences were attributed to the practice location of nurses within the groups and the individual characteristics and priorities of nurses. As proposed interventions are examined in this section, consideration has been taken of these differences.

The interventions to develop pain practices fell broadly into two areas. The first set of interventions reflected individual objectives to improve pain knowledge and to use that knowledge in practice. The second set of interventions was orientated towards broader, collaborative practice developments.

5.3.1 Improvement of pain knowledge

As nurses had registered for the pain units as part of their degree programme, it is not surprising that nurses viewed development of pain knowledge and successful course completion as their main objectives. There was also a level of expectation that particular aspects of the curriculum would be beneficial to their practice. In fact, nurses' focused on areas of pain knowledge that they considered would be most appropriate for their individual practice. They wanted to gain perspectives into the

causes and nature of pain and assessment practices. In particular, nurses wished to develop their understanding of different approaches to pain management, with a notable focus on pharmacology. In the following examples nurses' emphasised how they anticipated improved drug knowledge would lead to enhanced pain care:

> 1GI To improve pain, I think as well something we could do with knowledge about analgesia and how they work together, the interactions between pain killers.

> 2GI I think the bit that I fall down with patients is on the medication and if they are not working and maybe other ones that you are familiar have maybe been tried and aren't working, and it's this gap in the knowledge and what could be given with what.

As described in Chapter 4, the curriculum content of the pain units was broad and focused on a range of pain related issues including pain management. However, during pre-course interviews all nurses primarily regarded pharmacological information as pivotal for improving their individual pain practice.

5.3.2 Identification of practice changes

Nurses from both groups also identified similar pain related interventions. The inconsistencies in approaches to pain assessment that nurses had examined during their discussions led them to consider the possibilities of improving pain assessment practices. Additionally, they recognised that pain assessment was a key curriculum focus in the first Pain Unit. However, when nurses discussed their proposed approaches to these initiatives, differences between the two groups were apparent. As nurses from Group 1 worked in the same hospital, they elected to proceed together to review pain tools and select one that they could consider for possible use in their clinical areas. At this stage of the research, they did not consider

implementation of a pain assessment tool, rather decided to initiate discussion about the best one to use for their practice areas.

The nurses in Group 2 took a different approach to their planned interventions and presented a variety of proposed interventions. As they worked in three different hospitals, this meant that a group initiative to identify a single practice change was not possible. The two day surgery nurses decided to review some simple pain tools that could be used in their speciality. They also indicated that they would like to review pain information given to day patients on discharge. The senior grade nurse in Group 2 worked in a practice setting where chronic pain problems were common. She elected to focus on this issue and wanted to review appropriate approaches for chronic pain assessment. She also had an ambitious plan to investigate the possibility of establishing a chronic pain clinic that could be accessed by hospital and community based patients. This choice of action was influenced by previous difficulties experienced with patients who had chronic pain problems and found it difficult to access a co-ordinated system of pain management. The midwife felt that for her, timing for change was difficult as she moving around general areas of practice. However she expressed an interest in developing her knowledge of complementary approaches to pain management. The newly qualified nurse was less confident in her ability to influence practice. She could not at this point in the study select a practice area to develop although she re-iterated her own desire to improve pain knowledge and use this within her own practice.

5.3.3 Barriers and facilitators of change

Nurses identified a range of barriers and facilitators, which they believed would affect the extent to which they were able to influence pain practices. The senior nurse in Group 2 was the most confident about her ability to initiate change in her practice area. She also encouraged the others in the group, when they expressed doubt, to consider thinking about small aspects of pain assessment they could influence. Two of these participants were staff nurses, with two and three years experience in practice and considered their junior position to be a disadvantage in terms of their ability to influence or facilitate practice change. One of these nurses described how she felt at the prospect of trying to influence practice.

> 2GI   But dare I say that you would feel that you were going a little
>   bit out on a limb if you were going to say 'right I am going to
>   start a pain assessment tool',

This nurse felt that that her ability to influence change was limited. This attitude was endorsed by another nurse from the same group, who felt overwhelmed about the prospect of having any real impact on practice,

> 2GI   There are five of us here but there are about five hundred
>   nurses out there.

Caution about the potential success of influencing any aspect of pain practice was not only confined to newly qualified nurses. Nurses from both groups anticipated barriers to the introduction of pain tools or when attempting to improve aspects of pain documentation. The following comment represents the type of reactions they expected from their colleagues:

> 1GI   They [clinical colleagues] will say 'that's the thing about pain
>   assessment charts, it's another chart, we have so many
>   charts that we have to fill in.

Furthermore, at this stage of the research, nurses themselves had a degree of sympathy with these reservations, as is reflected in the following observation.

> 1GI   Ok, but it will be another piece of paper; we are already under piles of paper.

It is significant that nurses from Group 1 agreed on a unified approach to their intervention, yet this nurse expressed her own hesitation at the initiative proposed. This potentially presented a problem for collective action. If nurses were not all convinced of the need for a pain tool, there was less chance that progress with the action would occur. Another barrier to practice intervention was anticipated by a day surgery nurses who expected to have a six-month secondment to general surgery while she was on the pain course and therefore would not be in her own practice area all of the time. Two nurses from Group 2 had already experienced some negative attitudes from other nurses about their decision to study for a nursing degree.

Nurses suggested a number of measures that would help to create conditions for introduction of interventions, including increasing involvement of other specialists to help with initiatives. The key factor identified by both groups included involvement of clinical colleagues in any planned initiative.

> 1GI   If a whole ward was involved at a time you would get an effect in the ward…Yes, where you had everybody in the ward doing something on pain you would get more compliance…you would need a consistent approach from all the staff involved in the care.

Colleague involvement included nurses raising awareness of their pain course participation and their research involvement. Nurses from Group 1 suggested that telling colleagues they were involved in a research project where they were going to try to change areas of practice may help them to legitimise any practice interventions

suggested. It was also not surprising that nurses drew strength from their group and were anxious to tap into the benefits of working collectively to achieve action.

> 1GI   I think we have to consider the team approach…on our own
> we are nothing, we are part of a team here… and that there
> are a lot of people and we need to talk to each other.

This sense of collaboration was less evident in Group 2, although they did agree that by meeting together they would provide mutual support for each other.

5.4   CONCLUSION

In this Chapter I have presented nurses' impressions of pain care and their perspectives of how this was assessed and managed in practice. Weighing up the evidence reviewed in Chapter 2, many of the practice deficiencies identified by the nurses were similar to those identified in previous studies. For example, pain assessment processes were inconsistent and poorly understood, and practice barriers constituted major challenges for delivery of effective and evidenced based pain care. As a related issue, nurses' demonstrated limited awareness of the existence of evidence based sources to underpin their practice.

I would maintain that the most significant issue which emerged from this review of practice was the discrepancy between the view that nurses are central figures within the multidisciplinary team responsible for pain care (see Chapter 2), and the more limited perception of role and accountability that nurses in this study recognised was within their scope of practice. They mainly contend that the primary responsibility for pain care resided with medical or more senior nursing colleagues, and sometimes with the patients. In agreement, Carr (2007: 206) also suggests that it can be difficult to determine who exactly is accountable for pain care.

The perception that nurses had limited scope to act autonomously, were not listened to, nor felt fully involved in decisions about pain care was apparent. This was compounded by organisational factors over which they felt they had little control. Consequently, nurses did not demonstrate significant accountability for their pain practice nor did they perceive themselves as the central figure responsible for the delivery of effective pain care.

Any subsequent attempt to intervene in practice, either independently or collectively, may therefore be constrained by these conditions. Furthermore, the challenges of identifying potential practice interventions and taking these forward in a collective way were dependant upon the practice location of nurses and on the priorities of individuals within each group. There were also differences in nurses' beliefs about the extent to which they could have an impact on practice change. In this respect, this phase of the research more accurately identified possibilities for action (Martin 2006), rather that clear-cut interventions.

In conclusion, nurses recognised that possibilities for action identified pre-course would be re-evaluated, and their relevance re-assessed, as the research, and course participation progressed. The following three chapters will consider the effect of course and research participation on nurses' pain practices.

Chapter 6 Review of Individual Interventions

In this Chapter, I evaluate part of the action phase of my inquiry and consider the way individual nurses developed their approach to pain care. I examine the way nurses described application of pain knowledge to their practice and the associations they made between pain theory and changes in their approach to pain care. In Section 6.1, I suggest that nurses revised their perception of pain, acknowledged the individual nature of pain and the uniqueness of each patients' experience. Section 6.2, reviews the consequences of these revised perceptions for nurses' actions, in particular their renewed emphasis upon patient assessment. In Section 6.3, I argue that nurses developed more faith in the accuracy of patients' pain reports and were empathetic in their reported approaches to the patient in pain. In section 6.4, I examine the actions nurses described, that helped patient's take more control over their own pain situations. Section 6.5, evaluates the changes nurses made to their pain management practices. In conclusion, I argue that examination of individual interventions demonstrates how nurses were able to use aspects of pain theory in their practice.

6.1   INDIVIDUALISING PATIENTS' PAIN EXPERIENCE

The first pain unit focused on the origins of pain, pain physiology and the extent to which psychosocial experiences influence pain perception. Nurses stated that knowledge about the origins of pain had highlighted their awareness of phenomena that influence pain perception and they described how this knowledge subsequently affected different aspects of their practice. This appreciation of pain origins was

regarded by them as one of the more significant and potentially most influential components of the pain course.

> I2   Understanding where the pain is coming from, how pain works…that is the thing that has changed my practice and will continue to have an impact on what I do.

It was evident that nurses descriptions of the origins of their patients' pain and how their insight of factors, which contributed to the patient experience, affected their overall perception of pain. This nurse described how significant these issues were for her understanding of the patients' experience of pain.

> I2   Yes you realise, how they demonstrate pain, you can base that on what you learnt…it triggers of your awareness…of so many things like cultural learning, people's framework of reference, their experience from the past, their belief systems and what pain meant to them, the individuals' experience, that all really struck a chord with me.

Theatre nurses, in particular made important associations between the patients' previous experiences, their anxiety levels and the subsequent impact of these factors on their pain perception. A theatre nurse described this relationship with reference to a patient she reviewed on a pre-operative visit.

> SIA1   She had a lot of personal problems as well…causing her to be anxious…her husband was ill… she couldn't really afford to be in hospital according to herself…she had a recent bereavement, there was all these things, worrying about how the family was going to cope. Well these are additional problems that can affect her pain. It's understanding how this link about anxiety affects pain.

Although this nurse went on to acknowledge that she could not resolve all the issues the patient had, she understood how patients' anxiety levels could exacerbate pain perception and was able to pass on concerns she had about the patient to the anaesthetist. Another theatre nurse identified the essential connections between factors that influence pain and suggested that her understanding of pain physiology

had actually affected her perception of the patients' experience in the anaesthetic room.

> I1   The anxiety and how it affects a person's pain I think that is what really stuck in my head the most…the gate control…the limbic system and how it all works together. For me thinking about a patient in the anaesthetic room, I couldn't believe all that … everything is so different now.

This nurse went on to review her approach to the patient waiting for anaesthetic. Although she had previously used distraction to help settle patients, she suggested that her renewed understanding of pain physiology prompted her to reassess strategies she could use to make the patients' experience in the anaesthetic room as stress free as possible.

An experienced nurse, from Group 2, suggested that she felt more secure in her practice when considering the multi-dimensional factors that affect patients' pain. She explained how she felt her previous knowledge had been reinforced resulting in a more informed and confident approach to pain assessment.

> 2G2   It's reinforced ideas that I had or, intuitions about where pain comes from…its influences…I feel more confident, it has given me more of grounding when assessing pain.

In these examples, nurses demonstrated greater regard for the social, psychological and physical factors that influence pain perception as well as the interplay between them. Most importantly, these revised perceptions had consequences for the way in which nurses described their understanding of the patients' experience and their overall approach to managing the patient. In the following example, a medical nurse described an approach to pain assessment that gave priority to the patients' own experience and significantly included the potential benefits of involving the patient in the overall pain strategy:

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1G3 How the patients' experience, the psychological make-up helps to reduce their pain experience and how important that is… firstly what has led the patient to experience the pain…then how our approach can affect the outcome and how to use the patients' psychology to involve them in changing their pain outcome.

The relationship between nurses' understanding of the origins of pain and knowledge that several factors could significantly influence patients' own perception of pain had resulted in a more holistic and personal perspective of the patient than was identified by nurses pre-course. Additionally, nurses did acknowledge the impact of diagnosis on individual pain experiences, and were more consistent in their observations, particularly in relation to patient diagnosis or surgical procedure. Post-course, nurses described how their increased awareness and sensitivity to the personal nature of pain was also attributed to an appreciation that patients will have varying pain needs even when diagnosis and treatments are similar. For example, differences in individual patient experiences were acknowledged when patients had undergone the same surgical procedure.

2G2 You are more aware that two people next to each other who have had the same procedure, one of them might be in agony and one of them might not. They are all so individual.

I1 My perception of their experience is much more sensitive to each individual person having a different experience, not just…they are having a particular operation therefore their pain will be whatever.

An enhanced awareness of individual differences affected the way in which nurses considered management of pain. For example, there was acknowledgment that if pain perception was different for each patient, nurses concluded that pain management approaches would need to reflect these differences, at least in part. This nurse suggested that a common approach to pain management might not be successful because of the individual patient differences.

I2   You knew so much, but then the two pain units everything
      sort of made more sense…you also learn that everybody is
      totally different, and what works for one was not necessarily
      going to work for the next person.

Nurses who worked in surgical areas referred to treating the 'patients' pain', rather than the pain associated with the surgical procedure. This was a different perception from one that been offered pre-course when surgical nurses were more inclined to link pain experience to the surgical procedure. Post-course, there was evidence that all nurses had revised these perceptions, referring to pain as separate from the procedure or disease. This medical nurse summarised this shift in understanding:

1G3   I think prior to the course the pain was more to do with the
      disease, whereas after the course the pain was separate
      from the disease, whether the disease could be cured or not,
      you could do something about the pain.

Additionally, changes occurred in some of the beliefs nurses previously held about pain, notably affirmation in their belief that pain could be managed. Pre-course, nurses accepted that pain could not always be managed, a belief that was not evident post-course. This change in perception was also significant as nurses reviewed their approach to pain management and in particular considered the impact of chronic pain and chronic malignant pain on their ability to support pain interventions. When patient conditions were progressive, nurses recognised some value in separating patients' pain problems from their diagnosis. In this respect, nurses portrayed a more positive attitude to difficult pain problems recognising that pain could and should be managed regardless of its origin. Medical nurses provided examples of chronic pain conditions that they commonly encountered including patients with rheumatic pain, neuropathic pain and cardiac pain. They discussed the importance of providing effective pain interventions when the patients' had a diagnosis of chronic illness.

1G2　If you can't cure the disease process then the pain is going to be ongoing. So it's understanding you can at least try to do something about that…the pain is something different that you look at and you manage the pain and the symptoms caused by the pain rather than trying to look at the disease itself.

Pre-course, there was some indication that nurses recognised the diversity of the patients' experience. However, discussion about the effect of this diversity on the patients' pain outcome and nursing practice was limited. Post-course, all nurses described how their understanding of the origins of pain had made a significant impact on their appreciation of the distinctive and individualised nature of the patient pain experiences.

6.2　EXPLORING PAIN PROBLEMS

In the previous section, evidence demonstrated nurses were more aware, and accepting of the individual nature of patients' pain. This section considers the effect of this revised perception on nurses' approach to pain assessment. Importantly, the nurses' increased confidence underscored the areas of practice change reviewed in this section. It was evident that the knowledge nurses acquired through pain course participation had provided them with the confidence to employ strategies that enhanced their approach to pain assessment. These included, review of their nurse/patient interaction, more in-depth exploration of the patients' pain problem, and increased tendency to use pain tools, notably when the nurses were presented with more challenging pain conditions.

One of the most significant changes nurses' emphasised was the importance of taking time to explore the individual characteristics of patients' pain. There was a

range of situations described by nurses' that suggested their practice had changed to facilitate exploration of patients' pain experience to a depth they had not identified pre-course. All nurses recognised the need to spend more time communicating with their patients, although there was some variation in nurses' individual accounts of how they achieved this, and the depth of interaction. For example, two of the nurses related in a superficial way their account of how they interacted with their patients during the drug round.

> 1G3 Instead of assuming they are on regular paracetamol four times a day, and just giving it to them. We have a long-term patient with a peg tube… analgesia goes through his tube and all that, but I tend to take quite a lot of time now, saying 'Do you want your tablet?' 'Do you have pain just now?

> 2G2 You were giving the PRN, asking if they want it or whatever, or they [the patient] are letting you know they want it…I would be more inclined now to talk more about this to the patient.

Although nurses suggested that they had improved their interactions with patients, the change of approach described in these extracts was limited to ensuring patients were asked if they wanted analgesia. However, this was not typical of approaches reviewed by the other nurses whose descriptions of revised communication strategies were more robust. In the following example, a medical nurse described how making time to sit with a patient led to a greater understanding of the pain problem and insights into how the patient was feeling. As a result, she was able to encourage the patient to report pain. Of significance in this nurses' account, was the confirmation that one of the influential factors that helped to facilitate the dialogue arose from the increased confidence that resulted from course participation.

> 1G2 Course participation has made me feel more confident in having a dialogue about the pain beyond 'do you want a tablet?' To sit down and take a few minutes just to talk. The

other day a patient with chronic pain… well she said she didn't want to waste people's time and that she was a bit embarrassed and she was also tearful because her pain really was bad...then she said 'you know I never want to be a bother'…I know how she felt, because I was talking to her. So I could say to her 'not to feel like that and tell others how she was feeling'.

The importance of taking time to review the patients' pain condition, suggested that nurses attempted to gain a wider understanding of the patients' pain problem and the effect it had on them. Nurses described how they now perceived time spent with the patient to gain better insight into the pain problem, a necessary part of the patients' care. For example, this nurse explained how improved interaction with the patient became part of her pain assessment strategy.

2G2   Since doing this unit, the last while… as well as trying to keep on top of their pain and giving appropriate medication, it's about trying to explore and find time to talk and explore other issues that might be exacerbating their pain, which I didn't do in the past.

In the following sections of this Chapter, a review of further evidence emphasised the importance of facilitating patient involvement in their pain care. This also required nurses to spend time with their patients to provide them with information about their condition. The following extract described how course participation encouraged this medical nurse to ensure that patients were provided with explanations about their pain care:

1G2   Discussing everything with the patient, that's one thing I have got out of this. Now some may want to talk more than others, but always discuss with them all.

Although nurses suggested that time spent with their patients provided them with greater insight into the patients' pain problems, the way they used the time available was also significant. The evidence suggests a shift in nurses' priorities about how they used their time to achieve better levels of understanding about the patients'

condition. As this next extract illustrates, the challenge of finding time to spend with patients persisted; however, this nurse described how she re-evaluated the way she that used the time available to her.

> 2G3   I am trying to improve the level of communication with the patient…but I realised very quickly that there is not always the time and I have leant to be selective about how I spend my time, appropriately…that is the best approach I can come up with at the moment.

Evidence that nurses attributed greater emphasis to the patients' account was also apparent in their descriptions of strategies they described to engage with the patient. For example, in nurses' descriptions there was more evidence of exploratory questioning that went beyond asking the patients' if they had pain. In the following extract the nurse described her revised strategy to information gathering and as a result was more confident patients would confide in her:

> 1G2   Well now…being very much into pain and I have taken information on board....I always ask them, 'tell me how are you? Are you sore? And if so, you will tell me'? And they will tell me.

In the following example, the nurse described how she had altered her approach when discussing a pain problem with the patient. In the first example, the dialogue with the patient was punctuated with leading questions; the revised approach was more exploratory, giving the patient an opportunity to open up about their pain.

> 2G2   Now before doing this course I would have said to the patient, 'Are you sure you haven't got pain? Whereas now I would ask them about their pain, 'if you are in pain, tell us about the pain you are feeling'.

 In Chapter 5, the patients were identified by the nurses as constituting a significant barrier to accurate pain assessment.   In contrast, post-course nurses saw themselves as entering into significant dialogue with their patients and were questioning them in more depth about their pain and challenging their responses.

This self-assurance to engage with patients developed from the nurses increased

pain knowledge that provided them with confidence to engage in a more in-depth

exploration of their patients' pain condition. The following example from a medical

nurse illustrates depth of patient questioning not demonstrated pre-course, coupled

with an understanding that patients may need help to recognise the circumstances

around their pain. In addition, the nurse acknowledged that one individual patient

may present with a variety of pain problems and stressed the importance of

engaging with the patient to explore this complex picture,

> I1   I think I am a lot more aware of the patient's pain and I would ask rather than 'are you sore?' ask lots of other different questions…compare their pain to their observations or their denial of pain to their observations. I would challenge them a bit more. I think especially the elderly they are quite reluctant to admit to any pain.

A further example of a nurse uncovering information about the patients' condition

was demonstrated by the way in which the nurse in the following extract reviewed

the type of information she was more likely to seek from her patient. As in the

previous example, she identified improved communication strategies and a greater

inclination to explore the patients' pain problem and probe the patient to impart

information in a way she would not previously have done.

> 1G3   I am far more communicative with a patient than prior to the course. Well, I ask them a lot more, even more personal questions, before I would have thought I was a bit intrusive by asking things, whereas now you think it is going to benefit them.

In Chapter 5, nurses suggested that the reluctance of patients to pass on pain

complaints contributed to inadequate assessment and management, essentially,

placing significant responsibility on the patient to report their pain. The evidence

presented in this section, suggested some shift in responsibility from that which

emphasised the patients responsibility to report pain, to one where the onus was on

the nurse to find out relevant information.

Some evidence emerged that nurses also explored pain problems in greater depth by making better use of pain assessment tools. However, nurses suggested that while tools were helpful for intractable pain problems, their use with most of their patients remained limited. The first pain unit gave nurses the opportunity to evaluate pain tools and emphasis was placed upon the need to assess pain accurately with the help of appropriate pain tools. While nurses changed their attitudes to pain tools and were more receptive to their benefits, there was still limited evidence of practice application. In their reference to use of pain tools, nurses described how they elected to use them in particular situations, rather than routinely with all patients they encountered. For example, medical nurses used pain assessment tools when patients presented with complex pain problems, as exemplified in the following account:

> I1   What I tend to do now if the patient has different pain, like cancer pain on top of other chronic pain, I think if there is somebody with a pain situation that just doesn't seem to be straightforward, I tend to use a pain chart.

This was a typical example of a situation where a nurse described her decision to use a pain tool. Although nurses did indicate increased use of tools to obtain a clearer understanding of some of the pain situations they encountered, the decision to use them was related to the more challenging pain situations they came across. Some nurses indicated that they would not use a pain tool unless it was evident that the patient had an untreated pain problem, and three nurses suggested that they would not use a tool unless the patient was distressed. There was limited evidence to suggest that nurses would opt to use tools on initial patient contact or to prevent problems arising in the first place.

Nurses described how they elected to use pain tools to help them chart the patients'

progress when a more systematic approach to assessment could help to clarify the

pain problem. Again, there was recognition that pain tools helped to provide more

concise information about the complex pain conditions nurses encountered. Medical

nurses made particular reference to examples where they used pain tools for

patients with chronic pain conditions. The following extract from a SIA illustrates

how a nurse made a conscious decision to use a pain chart when nursing a patient

who was terminally ill, as she was concerned about the patients' level of pain control.

She described how the chart was used to monitor the effect of pain interventions and

to demonstrate the need for further analgesia.

> SIA1 I planned ahead, and on my late shift that night…I took the
> pain chart out…there was no pain chart there and I decided I
> am going to take a pain chart out, log what he has
> had…what he is having next, his other symptoms and so
> on…I thought that might help… okay, he had his routine
> MST [morphine sulphate tablets] but symptoms were getting
> bad…this might help them to decide if they are going to
> introduce the syringe driver

Even although the theatre nurses routinely used a Numerical Rating Scale to assess

post-operative pain, they described how they too had become more confident,

interpreting and acting on the results of the assessment and subsequently

communicated high pain scores rated by patients to the anaesthetist.

> 1G3 Oh yes definitely, you feel more confident documenting them
> [pain scores] actually putting your point across.

Notably, four nurses encountered some level of opposition from their colleagues

when they attempted to use a pain tool. In the following extract a nurse from Group

1 described why she elected to initiate a pain chart for undiagnosed pain, despite

opposition from a colleague who thought this would actually amplify the patients'

pain complaint.

I1   We had a young lassie in and she was re-admitted again for pelvic pain that they hadn't found a cause for…so I said to one of the girls 'I am going to put her on a pain chart' and I nearly got eaten alive. 'No she said, she will play on that, don't'. She went off duty and I gave her the pain chart, it had the opposite effect, she actually didn't have as much pain because she was documenting it.

Although the nurses did not routinely use pain tools with all their patients, they reported that they had the confidence to use them even when faced with opposition and negative attitudes from nursing colleagues towards pain tools. This feature of practice is considered further in Chapter 7. In many of the approaches to assessment nurses described, there was more evidence of in-depth and objective exploration of the patients' pain report. However, their use of pain tools continued to be inconsistent.

6.3   SUSPENDING PERSONAL JUDGEMENT AND BELIEVING PATIENTS' REPORTS

The focus on individual patients' pain report continued to have prominence, as nurses demonstrated greater belief in, and empathy for, their patients' pain. Empathy can be understood as a way of communicating or a form human interaction. La Monica (1981:398) describes empathy both in perceptual and interactional terms which involves, the perception of the client's world by the helper, communication of this understanding to the client and the client's perception of the helpers understanding. This perspective of empathy was demonstrated by the nature of interaction nurses described with patients who were experiencing pain. The conditions for empathetic engagement were demonstrated as nurses reported more effective listening, suspended personal judgements of their expectations of

patients' pain and expressed a greater tendency to believe their patients' pain report. Each of these conditions are reviewed in this section.

An important element of empathy was the way in which nurses described the importance of listening to their patients. Understanding and accepting the meaning of the patients' pain report reinforced the value of really listening to patients' accounts. Nurses described enhanced listening as a small change in their practice, yet one that had considerable implications for patient outcomes. A nurse from Group 1 described this as one of the most important lessons learnt from the pain course. A surgical nurse from the same group suggested that she had always asked patients if they had pain, but by really listening to their response, had gained a more accurate picture than previously. These surgical nurses typified the benefits of listening to patients, suggesting that patients' accounts had even greater influence on their decisions about pain care.

> 2G3   You are listening, you are tuning in a bit more now, and you realising that there are different factors that could come into play that could affect the outcome for the patient and therefore should affect what decisions you make.

> 1G2   Maybe they are in pain they are just not writhing about…if someone says they are in pain I listen and act on it.

Furthermore, nurses recognised that by listening to the patient, this action in itself could be therapeutically beneficial.

> 2G2   It is so to do with comforting and talking and having the time you know to listen…that makes a difference to them…so I know now, there is just sometimes so much more to it.

The way in which nurses described their approach to patients suggested that they made a more conscious effort to tune into the patients' report and at the same time suspended their own perceptions so they could attend to what the patient was

saying. This experienced nurse described how she attended to patients in a more receptive and open way.

> I2   So, it is like realising what contributes to the pain experience. In the past I might have just dismissed people and given them kind of, I don't know, too self involved to recognise whatever they were saying and what their perception was.

Three nurses also noted negative reactions from nursing colleagues when they set time aside to listen to their patients; this appeared to be more of an issue for the recently qualified nurses. In this example, one of the nurses from Group 2 identified difficulties with the attitude of others whom she felt were critical of the time she spent listening to her patients.

> 2G3   I think because I am now listening to what the patient is saying and possibly that is interpreted as spending too much time listening to patients rather than getting other things done maybe.

While this nurse suggested that others might be critical of the time taken listening to her patients, there was also implied criticism levelled at the attention she was giving to the patients' report.

Nurses recognised that the achievement of effective and accurate pain assessment was also dependant upon their own attitude towards the patient and their ability to avoid making pre-judgments about the circumstances surrounding the patients' pain or the patients' pain report. Pre-course, nurses were critical of medical staff who failed to give patients' views due attention, and less critical of their own attitudes. Despite limited evidence in pre-course interviews, nurses claimed that they had taken cognisance of patients' self-reports prior to the pain course. However, they confirmed that the need to attend to their patients had been reinforced post-course. Nurses' accounts of their response to patients' reports illustrated greater inclination

to suspend their personal judgments about expectations of the patients' pain experience.

> I1   I think possibly my ability to demonstrate is one of the discernible things… the thing comes to my mind is the positive regard, that kind of respect for what the patient is saying. I think that has improved probably because you understand there is more to it and you give more credibility to all the different things people say about little things. That isn't meant to sound that I didn't give competence to what people were saying before but it has improved.

Nurses demonstrated a heightened sense of awareness about the need to judge the patients' pain according to the patients' own report and stated that they lent greater authority to what the patients said and were more responsive to their pain requirements. This nurse described how she had become more receptive to the patient, suspended personal expectations of pain, and importantly, believed the patients' report.

> I2   I try not to judge what I think their pain level should be, I listen to them, I try not to judge it on what they have had done, just because that is what you would expect them to be feeling. I take on board what they say.

During the pre-course interviews, nurses stressed the importance of using the patients' vital signs, posture and facial expression to help determine pain levels. Post-course there was more emphasis on patients' own reports of pain and recognition that these were a valuable and reliable indicator of patients' pain.

> I1   Definitely changed quite a bit because they say, pain is what the patient experiences personally, and you kind of thought that, but now that is exactly correct… what they are thinking, what they are feeling, you take that on board.

Inures expressed greater confidence in their capacity to believe patient reports of pain and they were less likely to presume that the patient was exaggerating their complaint. In the following extract, a nurse suggests that the patients' complaint took precedence over her own perceptions of the pain experience. She revealed that

whereas she may have previously doubted the patients' report, she was now more prepared to believe the patient.

> I2   It heightened my awareness; I think I did use the words 'oh are we putting this on?' I believed they had pain, but somehow I would be the same as others, whereas now I am always saying 'if the pain is real to them whether or not, what we believe pain is, the pain is real to the patient'.

There was also evidence of nurses asserting their views with colleagues in relation to the patients' self-report. Situations were described where nurses challenged negative perceptions of others when it came to believing patients. Some nurses also provided examples of situations where they had confronted doubting colleagues and supported patient reports of pain.

> I2   I think I see it as real now all the time and very often nurses talk about whether it is real or whether the patient is putting it on…'How can they be in pain because of their position, because they can walk like that, how can they have pain? So I say…'what they say is what they have'.

The following extract presents a similar position but is most significant when the practice context is considered. Pre-course, only theatre nurses routinely used pain assessment tools in their practice. This theatre nurse refers to that assessment but indicates that she was now more certain about the efficacy of the patients' report and more likely to believe their pain score.

> I1   In theatre we use the numerical scale, I think now I am more confident to actually believe that the patient could be experiencing 10 on the scale…whereas before you might think, they couldn't possibly be 10, really.

Post-course, nurses referred to the patients' pain as belonging to the patient and, being experienced by the patient. While this may seem self-evident, it did in fact involve a shift in nurses' perceptions whereby the personal nature of the patients' pain experience was reinforced. This was evident in the way nurses referred to the patients' pain, for example, frequent reference was made to 'their' pain, when nurses

talked about the patients' experiences. The term, 'their pain' was freely used, affirming recognition of the personal nature of the pain experience.

> 2G2 Now if I hear somebody say, which you do hear, 'oh, it is only a pilonidal sinus', or 'it is only a small one', which is crazy. I mean the people are experiencing excruciating pain and they are expressing their pain.

There were other examples relayed by nurses, particularly through their SIA where they described situations where they had reinforced the personal experience of pain with their patients. In six different accounts, nurses described how they encouraged patients to self-report pain; in particular, they gave emphasis to the use of 'your pain' to reinforce this approach.

> SIA2 I said to her 'remember if you have any pain tell the night nurses and they will give you something'. Well she said 'it is usually before eight in the morning that I feel it quite bad' and I actually said 'it is your pain and you tell the nurses'.

The following extract provides a detailed account of a nurses' perspective on the use of the term 'your pain' with her patients. This experienced nurse from Group 1 stated that she had not previously referred to the patients' pain in such a personal way and indicated she would have been awkward doing so pre-course. Post-course, she suggested a greater inclination to refer to the patients' pain and suggested that in doing she was taking more account of the individual experience of the patient. Consequently she alluded to a better understanding of the patients' situation which with help from the patient, contributed to resolution of the pain problem.

> I1 Before, if I heard anybody saying something like 'your pain', if I heard that expression to be honest…it's not what I would have said. But, I find myself actually thinking and speaking like that now…the other day I was referring to somebody's pain as 'their pain'…I didn't feel embarrassed or odd using the word whereas…I used to think is that not sort of, like fruity? Now, you are acknowledging that their experience is unique to them and if you are acknowledging that then you are already half way to showing that you are with them on the journey sort of trying to find a solution - empathising.

The process of patient engagement described by this nurse also suggests use of empathetic skills to understand the patients' perspective and communication of that understanding to the patient. This also endorses the therapeutic potential of patient dialogue from the patients' perspective. By understanding the patients' situation, nurses obtain an informed perspective of the patients' pain that was required to help them manage the problem more effectively. A surgical nurse described this process:

> I2   It's what they say about their pain rather than what you think
>   or what other people think. They [the patient] should be
>   involved at every stage.

The conditions for creating an empathetic relationship as described by La Monica (1981) helped the nurses to gain a better understanding of the patients' pain problem. Underpinning this approach was nurses' revised understanding of the individual and unique nature of the pain experience that provided the confidence for these interactions.

6.4   ENCOURAGING PATIENT PARTICIPATION IN PAIN CARE

In this section I show how the nurses emphasised patient involvement in their pain care. In doing so, they associated modifications in practice to their understanding of patients' pain beliefs and the significance of patients' taking control over their own pain. They recognised that patient involvement could be utilised as a key strategy for improving pain outcomes. The main thrust of enhanced patient involvement included, supporting patients to take a more active role in their own pain care. Nurses reported how they encouraged patients to self report pain, and significantly described the importance of ensuring patients were knowledgeable about pain relief strategies. Nurses described how patient education was a central feature of patient

participation, which was underpinned by the nurses' increased confidence in their own pain knowledge to impart information to their patients.

Nurses revised aspects of their practice and in particular emphasised the importance of encouraging patients to self-report pain. In the review of literature in Chapter 2 research findings found that patient stoicism had been reported to interfere with pain assessment and management (Clark *et al.* 1996, Schafheutle *et al.* 2001). Nurses' reports in Chapter 5, demonstrated similar attitudes to those reported in literature. In contrast, post-course the nurses described how they encouraged patients to self-report pain and stressed the importance of ensuring patients were not masking pain symptoms. In the following extracts, nurses describe how they encouraged their patients to be candid about their need for pain relief:

> I1   If they are getting more aware that they are sore or in pain, or even nauseous, I tell them not to lie back and not say a thing, they need to be more open, more honest.

> 2G2   Actually, I said to a fellow today…'make sure that you are not in pain, if you feel pain and your P.C.A. or whatever is not enough, you tell them'.

By encouraging vocalisation of pain, nurses were also reinforcing the notion that patients should be free of pain. In doing so, nurses were verifying the fact that untreated pain should not be an inevitable nor anticipated consequence of illness.

Theatre nurses who had previously acknowledged that pain decisions were largely controlled by anaesthetists also identified the requirement for patients to be more assertive with their pain needs. The following extract from a theatre nurse suggests that post-course there was less acceptance of unresolved post-operative pain. The

nurse described her frustration when a patient failed to admit he was in pain when questioned by the anaesthetist:

> I1   He was now saying that he was sore and I had said to the patient 'you should have told him [anaesthetist] when he came up'…So now I always warn my patients ' make sure you tell when he comes back that you are sore, don't say you are fine'.

Nurses also discussed how they encouraged patients to enter into dialogue with the medical staff to self-report pain, encouraging patients to report pain directly to the doctor as well as the nurse. This medical nurse was particularly emphatic about the need for patients to be active and related in strong terms her instructions to patients.

> I1   As soon as a doctor comes in anywhere, they just sort of do what they like; you have to tell the patient to stand up for himself and demand pain relief...they [the patient] needs to tell them what they feel.

Nurses suggested that when patients were involved directly in their own care and communicated their pain and request for effective pain relief to medical staff, this increased the likelihood of the doctors' response. Patient contact placed the doctor in a situation where they had to listen to the patient, acknowledge the pain complaint and take action to relieve their pain. Nurses implied that if patients asked doctors for pain relief their request could not then be ignored. Nurses described how patients could be empowered to help themselves. When patients had contact with the doctor, they had greater direct involvement in the decisions made about them.

> 1G2   Also, if the patient is asking, you are empowering the patient because by empowering the patient they are influencing the doctor's decision; different than when the nurse asks the doctor.

Nurses' were also committed to informing patients about their pain conditions and courses of action available to them to resolve pain. It was evident that nurses were more inclined post-course, to provide patients with relevant and accurate information

about their pain, thereby increasing patient involvement in pain decisions. They suggested that confidence in their own pain knowledge meant they could inform and educate their patients with a greater degree of assurance. Indeed, all nurses frequently referred to their increased confidence, suggesting this provided much of the impetus for changing practice.

The notion that patient information is empowering, thereby allowing patients a greater degree of control in their pain care was reported by nurses as a key strategy for improving pain outcomes. Nurses detailed the type of information they relayed to their patients, including information about pain interventions, expected effects of interventions and the benefits of adhering to prescriptions when patients were reluctant to do so. Essentially nurses were providing patients with modified information that they themselves had acquired through pain course participation. They suggested patients subsequently benefited as knowledge allowed them to be more informed about their pain care and facilitated greater participation in decisions. In the following two examples, nurses had evaluated their roles and in particular the importance of acting as a resource for the patient:

> 1G3   I am more knowledgeable about pain control, then you are a resource to the patient, because your role as a nurse is education in a sense…to allow the patient to be involved in their decisions.

> I2   But at least you can satisfy yourself that you have the understanding of why what they are on is what they are on, and that it is helping them, or how it is helping them, or what any limitations are, then you are being more of a resource to the patient.

The value of patient education was reviewed by the nurses in a range of different ways. For example, they suggested that when patients were provided with

information about their pain relief, they were more likely to use analgesia appropriately and to make an evaluation about the effectiveness of that intervention. Furthermore, patient information was recognised as a way of improving concordance with prescribed pain relief, thereby improving pain outcomes. Post-course, this had particular relevance for nurses who worked in day surgery where patients needed to have accurate information to help them manage their own pain.   The extract describes how the nurse changed the way patient information was given pre-discharge to surgical day patients:

> I2 Before, when patients were discharged…you tend to give them their prescription and that was that. Now I explain it more, the analgesia they have had, when they can take more, so they know what to do when they go home.

Theatre nurses also endorsed the benefits of patient information, and identified opportunities for patients to participate in decisions about their pain care.   For example, one theatre nurse described how she routinely encouraged patients to discuss pain relief with the anaesthetist during the pre-operative visit, a strategy that she started to emphasise post-course:

> I1 Pre-operatively I have changed info quite a bit. I make sure that they know what their options are and I emphasise that they must discuss it with the anaesthetist…I never thought of it in that way…but now I tell them.

Connections were apparent between nurses' pain knowledge, patient information and enhancement of nurses' role as patient advocate. Advocacy was demonstrated in a range of ways.   First, by informing patients and ensuring they had relevant information to make informed contributions to care decisions.   Secondly, by supporting patients' and ensuring their pain complaints were attended to and appropriate choices were made about their pain care.

> I1 I use my role to achieve more for the patient and I link that up to having the knowledge… being the patient's advocate

and yes my role is to help take actions to help the patient to
help themselves.

Thirdly, advocacy describes circumstances where nurses supported patients in face of opposition from colleagues. For example, three nurses described how, on different occasions, they 'stuck their necks out' when they encountered inaction to pain complaints or when they disagreed with selected pain interventions. Unsurprisingly, these situations caused some unease for the nurses, yet they remained confident in their support for the patient. Again, in these circumstances nurses emphasised how confidence derived from their pain knowledge strengthened their advocacy role.

> I1   I think it comes down to feeling you can advocate more for
> the patient…suggest something, ask for a thing to be
> discussed. If it is based on knowledge, you are aware that,
> that justifies what you are doing and there is something to
> underpin it if anyone wants to check it out.

Finally, it was important to note that newly qualified nurses continued to find it more difficult to disagree or intervene with pain decisions in their clinical areas. However, despite unease at the thought of challenging colleagues, knowledge provided them with a degree of confidence to attempt to influence practice. Pre-course, one nurse had been particularly cautious about her ability to change practice or have influence on any aspect of pain care. However, post-course she suggested that she was more of an advocate for her patients and had more confidence to challenge colleagues, again contending that knowledge had helped her to develop that confidence,

> I2   I am a bit more of an advocate for my patients than I would
> have been before…I would have been more easily bullied I
> think by senior staff…or whatever, but I am not now…when
> you have understanding of pain and how everything works.

6.5   REVISED APPROACHES TO PAIN MANAGEMENT

In this section I examine changes in the way nurses approached pain management interventions post-course. In the pre-course discussions, nurses tended to attribute problems with pain practices to other nursing and medical colleagues and their patients. Post-course, there was more recognition of shortcomings in their own pain practices and nurses were more confident with administration of pain relief.

Post-course, nurses were less accepting of patients' explanations for refusing analgesia and encouraged them to use their prescriptions.   Significantly, nurses described how knowledge of pain pathways and the modulating effects of analgesia gave them insight into the benefits of regular or timely administered pain relief. Subsequently, improved knowledge gave them confidence to offer patients advice about how they could more effectively self-manage their pain.

> I1   Now giving patients advice on how to manage their pain…telling patients that they are not to wait for the pain to get so bad that they have to ask for analgesia, once they start feeling the pain or even before its starts, telling them it is much easier to control.

Nurses' were less accepting of patients who postponed taking analgesia until the patients felt that it would be of most benefit to them. They actively encouraged patients to accept the analgesia prescribed, particularly when patients were reluctant to do so. This surgical nurse suggested that by simply offering patient's analgesia they were more inclined to take it:

> 2G3   You know now there is more meaning to 'medication by the clock' and you don't just say to somebody 'have you pain?…if they are prescribed it, they are offered it and will take it, I encourage them to take it.

Pre-course, nurses had largely attributed treatment delays to the actions, or lack of actions of others, particularly doctors who were responsible for drug prescribing. Post-course, there was some recognition by most of the nurses that they themselves had delayed administration of analgesia. For example, a surgical nurse suggested that even although the patient had a 'bit of pain', they may have postponed analgesia thinking it would be more effective when the patients' need was greater. They suggested their approach had changed post-course, and described prompt administration of prescribed analgesia. All but two nurses explained how they were more confident administering prescribed analgesia and were not so apprehensive of potential side effects, as typified by this nurse.

> I1   I am more willing, not that I was unwilling to give analgesia
>   out, but I probably ask patients more now to take what they
>   are prescribed and I know that is ok for them to have it.

In the literature review in Chapter 2, research evidence confirmed that exaggerated risks of opioid addiction and misplaced beliefs about potential tolerance continued to constitute a barrier to drug administration and effective pain control (Schafheutle *et al.* 2001, McCaffery 2002). None of the nurses had expressed similar beliefs pre-course, yet it was evident that nurses were more confident with opioid administration. Some nurses expressed a greater tendency to request and administer opioids when patients required this level of pain relief, as exemplified in the following extract.

> 2G3   I wouldn't have pushed for patients to get more morphine
>   quite so easy as I do now….give them what they can have,
>   if they are written up for it and they need it then give it to
>   them.

Nurses described how their revised practices resulted from a better understanding of the physiological effects of analgesia. Even nurses, who used opioids on a daily

basis, described how they were more confident administering morphine. An experienced theatre nurse administered opioids regularly, yet she stated that knowledge increased her confidence when administering morphine to patients.

> 1G3 Having gained knowledge of how morphine works in the body, you are not so scared of using it or giving it and then monitoring a patient following the administration.

Nurses also suggested that they were more aware of the benefits of pre-emptive analgesia, either before a procedure or in anticipation of painful movement. The senior nurse from Group 2 suggested that it was the small changes in practice that often made all the difference, like ensuring analgesia was administered before transferring patients. Another nurse described how she had reviewed her use of analgesia prior to a procedure.

> 1G3 From doing acute pain…thinking about dressing changes, making sure oromorph is administered around about half an hour before we do our dressing change, I am far more aware of that.

A medical nurse expressed concern about the lack of pre-emptive analgesia administered prior to painful, invasive procedures. She was more aware of the therapeutic benefit of pre-emptive analgesia and suggested that patients who underwent procedures were often under-medicated. She did attempt to address pain relief for invasive procedures on a patient-by-patient basis, but also expressed her intention of reviewing relevant protocols with her ward colleagues.

Finally, as well as reviewing their use of analgesia nurses described how they were more accepting of complementary pain management approaches as a way of managing some of the more difficult pain problems encountered.

> 1G3 It makes me think what can be used to stop pain…as well as conventional medicine, not as alternative but as complimentary. I am aware now, I wasn't aware of that before…I would in situations suggest something different to

what we are doing.

The senior nurse from Group 2, in particular referred to a selection of complementary approaches she was more confident to promote in practice, including, transcutaneous electrical nerve stimulation (TENS), acupuncture and heat pads. Although these were previously used in her practice area, she suggested that post-course, she was more inclined to advocate for them to be used at the outset of a pain problem. With the exception of this senior nurse and the midwife, access to complementary therapies proved problematic for other nurses' who were reliant on the expertise of others or availability of equipment. One nurse described how she wished she could offer patients access to complementary therapies for pain relief but that this was not always possible as access to resources was restricted.

Despite these barriers, nurses described occasions where they made use of complementary strategies that did not require additional financial resources. This was most evident in the SIA where there were six accounts where nurses described distraction techniques to assist in the management of patients' pain. One nurse identified distraction as one of the most influential interventions which had altered her approach to pain management:

> I2 One thing probably more than anything else is distraction…sounds very trivial when you compare it to tablets, but it does work to distract somebody away from the pain they are in.

In one SIA, a nurse described how her knowledge of pain physiology had developed her understanding of the association between distraction and its therapeutic effect. This knowledge had encouraged her to believe in the effectiveness of distraction and consequently she used it in her practice.

> 1SI Understanding that different nerve fibres are sending

> messages to the brain and how it's all linked up to anxiety…you can see how it works…the therapeutic effect of rubbing or massaging…I understand how it is obviously helping.

In situations where good pain relief was difficult to achieve, nurses suggested that they were more inclined to explore different options and were less accepting of unresolved pain conditions. An experienced medical nurse described how she expected to achieve more for her patients, was more responsive to their needs and expected better pain outcomes. One nurse summarised the benefits of course participation on her individual practice. She did not claim to have made substantial changes in her approach to pain care, but recognised that her effort to do things the right way and to try and reflect her new knowledge in practice was a step in the right direction.

> I2   I just try to do my utmost when they are in pain, and to do things and correct things that are of concern to me, that itself is a contribution. It is an improvement, it is a contribution if you are trying to improve practice, if you are willing to try and utilise what you have learnt and put it into practice.

6.6   CONCLUSION

Pre-course, nurses identified a narrow field of pain knowledge that they regarded as being most important for their pain practice. All nurses considered proficiency in pain management techniques and, particularly knowledge of pharmacology, to be the most important part of the pain course. They expected that this would, more than anything else, enhance their pain practice. Although nurses described alterations in their approach to pain management, as a result improved pharmacological knowledge, equally other practice changes were evident. The pain course focused on broader aspects of pain theory and so exposed nurses to more extensive fields of pain knowledge. Because of this, many of the changes that

nurses described in their practice were not identified in the planning phase of the research. Subsequently, as nurses progressed through the pain course they engaged in unplanned modifications to their pain assessment and management approaches.

Nurses had developed a critical understanding of the personal nature of pain that provided much of the impetus for changing their attitudes about patients' pain experience. Nurses were more accepting of individual patient experiences and had more faith in the patients' own report. Pre-course, there was some acknowledgement that some patients suffered unresolved pain and it was not expected that all patients would be pain free all of the time. In contrast, post-course nurses were less accepting of these pain outcomes and recognised that patients had the right to expect freedom from pain.

These revised understandings contributed to modifications in nurses' approach to, and understanding of, the patient in pain. Exploration and assessment of patients' pain was identified as a priority to effectively plan and implement successful pain interventions. Crucially, nurses re-examined their own beliefs about pain expectations, were more inclined to attend to the patients' report, and suspended personal judgments when assessing patients' pain. This empathetic stance was accompanied by increased awareness of their responsibility to act on the patients' pain complaint and reinforced the nurses' advocacy role in pain care by more active involvement in supporting patients' pain needs.

Patient involvement was facilitated by giving patients information about their pain condition and expected outcomes of pain interventions. Importantly, nurses enhanced pain knowledge, gave them the confidence to inform their patients. Nurses recognised the value of including patients, when possible, in all aspects of their pain care and regarded this as an important feature for improving pain outcomes. The practice changes nurses described confirmed greater accountability for pain practice as they demonstrated enhanced professional responsibility for ensuring patients were pain free.

Reflecting, Reasons' (1988) proposition, application of theory gave rise to practical knowledge of how nurses were better able to act within the context of their work. It was evident that nurses were able to transfer and apply areas of pain theory that improved their pain practice. Nurses selected theory that they perceived as most useful, relevant and practically applicable within their work contexts; arguably theory that they regarded as most useful for improving their pain practice. Conversely, some nurses were still reluctant to consistently use pain assessment tools in practice, despite agreeing in principle with their use.

The focus of interventions described in this Chapter account mainly for changes that enhanced aspects of individual nurses' pain care, but could not be considered as actions which extensively transformed pain care in nurses' practice settings. In this respect, practice enhancement has been recognised as a realistic expectation of practice impact within healthcare environments (Waterman *et al.* 2001). Furthermore, the practice changes described in the Chapter were mainly individual and did not reflect collective action in practice. Reason (2003:208) contends that

action research is most effective when it educates those involved in the research to develop their capacity both individually and collectively. I suggest that the individual practice changes nurses described in this Chapter provided them with the impetus to engage in more collective interventions. I also propose that nurses' participation in the action research influenced or supported their intention to change practice. This proposition is reviewed in Chapter 8. The following chapter considers the influence of practice context on nurses' ability to implement pain interventions in their practice.

Chapter 7 Overcoming practice barriers

In this Chapter, I examine the strategies nurses used to moderate the impact of some of the practice barriers to pain care they had identified pre-course. These strategies also comprise part of the action and evaluation phase of my inquiry. The practice changes described in this Chapter partially reflect some of the ideas nurses had pre-course for changing pain care. However, more evident, were unforeseen opportunities that arose from practice that nurses then responded to. As a result of nurses' interventions some of barriers reported during the pre-course interviews had their impact lessened. However, the reality of practice was that barriers continued to have some impact on pain care and the interventions nurses attempted. The consequences of these for nurses' pain practice are also considered.

Section 7.1 reviews evidence, which demonstrates that nurses increased their involvement in, and accountability for, all aspects of the patients' pain care. As a result, they improved collaborative practice relationships with colleagues. Further evidence of collaborative practice in section 7.2 reveals strategies nurses employed to pass on new pain knowledge to their colleagues. Section 7.3, considers the nurses' response to unplanned, externally initiated directives for pain care practices. The evidence reveals how some of the nurses took advantage of these directives and used them to participate in, and develop pain related interventions.

7.1   WORKING COLLABORATIVELY WITH COLLEAGUES

Recommendations from the literature endorse the premise that effective assessment and management of pain is achieved by collaborative effort, particularly between the

nurse and physician (Weissman *et al* 1997). As shown in Chapter 2, both literature and policy emphasise the key roles each play in these recommendations and there is increasing momentum for nurses to assume an even greater role in pain care. However, pre-course interviews did not reflect consistent evidence of collaboration. Nurses suggested that this had in part, been prompted by their own lack of knowledge. Additionally, they also saw themselves acting in a lesser role than their medical colleagues when they participated in pain care decisions, and expressed frustration at their inability to advocate on behalf of their patients. Post-course, nurses took steps to reduce this barrier by working in greater collaboration with their medical and nursing colleagues to influence aspects of the patients' pain care.

During the pre-course interviews, nurses expressed frustration at not being listened to when they passed pain information on to medical staff or requested additional pain relief interventions for their patients. In Chapter 6, nurses described revised strategies for exploring the patients' pain problems which, they suggest, were more effective than their previous approaches to assessment. Similarly, nurses also revised the way they presented their review of patient assessments to colleagues, in particular to medical staff. Post-course nurses described how they systematically collected facts about their patients and built up an informative picture of the patients' pain, before presenting to medical staff. For example, in interviews and SIA, nurses provided accounts where they used descriptions of patients' pain history, location and quality of pain, its effect on mood and patients' function, physiological measurements, pain score, and patients' own descriptions of their pain. Nurses suggested that they were more inclined to present this detailed patient information to medical colleagues when requesting pain relief interventions. One medical nurse

explained how she made sure she 'collected her pain facts and built up her case', used the patients words, rather than her own description before asking a doctor to respond to the pain problem. Similarly, a nurse from Group 2 reflected on her previous strategies when asking for pain relief, acknowledging that her information to support her request for pain relief had been inadequate. By collecting detailed patient information she felt more confident when presenting a case to medical staff. Her observations of being 'more forceful' when advocating for her patients suggested a greater degree of self-confidence in her practice report.

> I2   You need to have your arguments sorted out in your head as to why you are asking for pain killers, in such a way that you know they are going to respond...whereas before I used to say, 'oh so and so is really sore'…I approach it slightly differently now, so I get what I want for the patient.

In the following extract, another nurse also reflected on the inadequacy of her previous practice, acknowledging that the information she had formerly passed on to medical staff had been insufficient. She described her revised approach, which included presentation of more complete evidence about the patients' pain, documentation of the evidence, and better prepared responses to doctors' queries about the patient. Significantly, the nurse was more confident that the doctor would act on the comprehensive information she presented about the patients' pain.

> I2   Telling them [doctors] you asked your patient…saying they were still sore was not just good enough…you know now to have evidence recorded, the detail; they have been sore. How long? Where? What have you given? Did it work? Now I have that ready and they listen to me.

When nurses presented more informed patient assessments, they suggested doctors were more likely to respond to their requests to review pain prescriptions. Nurses were also more inclined to offer suggestions for pain interventions and reported favourable responses from colleagues. In nurses' descriptions of practice

encounters, doctors were more disposed to seek nurses' opinions when they communicated good insight into the patients' pain condition:

> I1   Tell them about the patient…inform them…that is enough to set them thinking,' well why is she saying this?' If they think you know, they will ask, 'Do they usually give this?' What do you think? It is up to us to get involved.

It was apparent that doctors improved their response to nurses and gave greater credibility to their opinions when nurses increased their involvement in pain care, demonstrated greater accountability, and engaged more with their colleagues, particularly medical colleagues.   Nurses also indicated that doctors were more inclined to consult with them when they became aware of nurses' pain knowledge and their interest in pain. For instance, when a medical nurse had demonstrated her knowledge of the analgesic ladder and emphasised its role in determining pain relief, she noted how this had encouraged a medical colleague to consult with her when making decisions about a patients' pain prescription. A theatre nurse reflected on the way her contribution to a pain clinic had become more significant when she demonstrated her own knowledge and interest in pain to the anaesthetist:

> I1   I help Dr A deal with chronic patients as well…whereas before I probably wouldn't bother asking him how…now I am always interested to find out how, I would always ask him, I have the confidence to ask him now how the patient is progressing, to understand what he is doing. I do that with him and…he is more open…he is quite happy to try different things and is willing to listen as well… he involves me more in the clinic.

Carr (2007) also notes that dependence of good relationships with other professionals, particularly anaesthetists is essential.

Pre-course, nurses had expressed frustration at not being listened to when they reported patients' pain complaints and felt that they were not fully involved in

decisions about patients' treatments. The blame for this had largely been attributed to medical staff disregarding nursing opinion rather than nurses own behaviours. However, when nurses consciously altered their behaviours, they found that doctors were more likely to respond to their concerns. Even when nurses continued to report difficulties getting colleagues to engage with them, they were not discouraged and persevered with their revised strategies.

> I1   Overall it has certainly given me more confidence to speak up or to approach doctors about medication and colleagues as well, some listen and some don't but it doesn't put me off.

Some nurses were also more confident they could influence decisions about pain management interventions, an area they had regarded pre-course, primarily as one of medical responsibility. For instance, a nurse described how increased knowledge about pain control gave her the confidence to offer advice about pain interventions. Although she recognised that as an experienced nurse she had previously guided junior house doctors with their prescribing decisions, she stated that the more she had learnt about pain, the more inclined she was to offer advice.

> SIA2   I am more aware that some [house doctors] are really quite unclear about analgesia or just the combinations of drugs that can be effectively used. Trying to get them away from this whole idea, 'just give him morphine or something' it does not work like that, I put other alternatives across.

Pre-course, nurses observed that drug prescribing was a medical responsibility and nurses perceived that their restricted input limited their influence to determine pain treatments. In contrast, post-course, nurses suggested that they involved themselves more in decisions about prescribing and demonstrated greater awareness of the consequences of prescribing decisions. Pharmacological

knowledge and prescribing was not just seen by nurses as the doctors responsibility, but one in which they themselves should play a key role.

> 2G2   When patients state 'they are still in pain' it is not just a
>   medical thing, it is about the nurses' knowledge of assessing
>   pain, what the nurse can do, what their medications could
>   be.

As nurses described their contribution to, and responsibility for pain management decisions, there was evidence that they had also assumed greater accountability for decisions made about patients' pain treatments. An example of this accountability was shown in their attitude to pain prescriptions. Nurses described how they were more attentive to the type of pain medication prescribed for their patients. Specifically, they described how pre-course, they had simply ensured that patients were prescribed analgesia, and had largely regarded this as the scope of their responsibility.   Post-course, nurses explained how they had extended their responsibility and reviewed patients' prescriptions including checking that prescriptions reflected best practice for management of specific conditions and that analgesia was aligned to patient need.

> I1   Before, I wasn't looking to see what kind of analgesia they
>   were written up for and why they were getting it…I just made
>   sure there was something there, not if it was the right
>   thing…the way I feel about what I do now is different… for
>   the safety and comfort of the patients, you need to know they
>   are getting the right things.

An enhanced sense of accountability for prescribing decisions was also evident as nurses described situations when they had requested review of patients' prescriptions because of concerns about potential drug side effects on their patients. For example, in the following extract the nurse recognised that she also had responsibility for checking the drug Kardex to ensure patients were not exposed to

risk because of their prescription and she acknowledged that this was a shared responsibility:

> I2   I look at the Kardex differently and notice things…the patient was put on long term Brufen…she was elderly and probably needed to be put on total inhibitors…it can affect their renal function as well, but that is not just the doctors' job to know that.

In particular, nurses were more aware of the benefits and risks associated with poly-pharmacy, including drug combinations that could be used to good therapeutic effect. In addition to helping them understand the basis for prescribing decisions, five nurses indicated that on a number of occasions, this had prompted them to ask medical staff to review prescribing sheets. In one SIA, a nurse gave an account of a patient with an arthritic condition who had not experienced good pain control. She described how knowledge of pharmacology had given her the confidence to advise a doctor to review the patients' prescription:

> SIA1   Understanding NSAID [non steroid anti inflammatory drugs] advice and how to combine them effectively with other analgesia…then advocating with the junior house officer when he had inappropriately prescribed.

Nurses also used their knowledge of pain management approaches to influence the dispensing practice of other nurses. For instance, one nurse described a situation where a patient had been prescribed a combination of analgesia but her colleague had not understood that they could be administered together for maximum analgesic effect. The nurse was able to advise her nursing colleague about the benefits of poly-pharmacy. Nurses also described incidents where they had responded to inadequate drug administration practices by nursing colleagues. In pre-course interviews, problems with drug rounds were identified when nurses did not administer pain relief that was prescribed for patients on a regular basis. Post-

course, nurses described how they revised their own administration practices and provided examples where they spoke to nursing colleagues and asked them to review their actions.

> I1   The other week a patient who was getting regular paracetamol didn't get any- because the nurse thought she didn't need them any more. I would say I am much more likely to react when patients make comments like that…I did go back to who was doing the drug round and spoke to them about it.

Nurses indicated they were more likely to respond when patients had unresolved pain and were not as hesitant to suggest to medical staff that different treatment options could be explored. Nurses reported occasions when they had suggested that patients gain access to complementary therapies or were referred to pain clinics. Nurses described their role as advisory, indicating that they were more inclined to enter into dialogue about their patients' pain problems, and to offer and ask for suggestions for resolving pain. Pre-course, nurses did not wholly view unresolved pain as their problem; if anything, they regarded it as failure by medical staff to respond promptly and effectively.   In contrast, post-course, nurses came to understand the problem as their responsibility. The attitude demonstrated by the nurse in following extract encapsulates the change in nurses' attitudes.

> 3G2   I would have no hesitation in saying, 'it was unresolved pain …can we find out what can be done?'

Pre-course, theatre nurses largely acknowledged the very limited role they had in pain management, and recognised the key role of the anaesthetist in prescribing decisions. Post-course, their perception of their role had remained unchanged in some respects. However, nurses suggested that they were more likely to try and influence pain outcomes than before. Crucially, nurses acknowledged that as they

were observing and monitoring the patients' recovery from anaesthetic, they too, had a responsibility for ensuring the patient had good pain control.

> I1 In a sense any anaesthetist that I work with will have the main control over patients in terms of pain, but however I can still influence practice. So, I suggested that he added to his prescription…I wouldn't have done that if I hadn't been on the course.

The increased confidence to question practice provided the initial impetus for one of the unplanned, collective interventions undertaken by theatre and surgical nurses in Group 1. Post-operatively, orthopaedic patients were transferred from theatre table, to recovery trolley and eventually to their bed on return to the ward. Nurses had observed that with each transfer, the additional movement had exacerbated the pain sensation for the patient. To reduce the pain experience, they proposed that patients should be transferred in the theatre recovery area, directly from the theatre trolley to their bed, resulting in minimum patient disruption. Nurses had gained the support of their nursing colleagues for the intervention. However, on the grounds of cross infection, the surgeon and anaesthetists had turned down their initial approach. Nurses then reviewed the evidence for cross infection, enlisted the help of infection control nurses and were subsequently able to persuade their medical colleagues of the benefits of the proposed change. At the end of research period, patients who had undergone hip surgery and major lower limb procedures were transferred back to the ward in their own beds.

On an individual basis, nurses also approached colleagues and suggested alternative approaches to pain care. Again, they suggested that increased confidence in their ability to contribute to treatment decisions had provided the impetus for these approaches. A medical nurse from Group 1 had expressed a

particular concern about pain related to certain invasive procedures. She consequently suggested to the medical consultant, the implementation of a short monitoring and audit project to ascertain patient pain levels throughout invasive investigations. Although she conceded that the consultant needed some encouragement to take this suggestion on board, she did state that he had expressed interest in her idea and the nurse relayed both her confidence and determination to pursue this.

A nurse from Group 2 described a similar situation in a SIA account where she indicated concern about inadequate pain relief for patients following laparoscopic surgery[3]. She described how she relayed concerns to nursing colleagues and medical staff, and stated that she had succeeded in raising awareness of the problem. As a result, a review of drugs dispensed by PGD had occurred.

Nurses were more inclined to review critically the delivery of care and the effect on the patients' pain experience. When they encountered situations where patients experienced unnecessary pain and interventions could be put in place to minimise the problem, nurses were more likely to actively seek and implement solutions when possible. Nurses recognised both the value of their own contribution and of collaborative effort between the nurse and doctor to ensure initiatives to improve pain care were successful. They recognised that there was a collective responsibility to ensure that pain was managed as effectively as possible. Nurses had regarded the attitudes and actions of medical staff, and to an extent nursing colleagues, a significant barrier to the delivery of effective pain care and to any potential

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[3] Minimally invasive surgery performed through a small incision

interventions for enhancing pain practice. Post-course, some of the effects of these barriers had lessened through the positive actions of nurses themselves.

Whilst enhanced responsibility for pain care and efforts to improve collaboration had a positive impact on the barriers nurses' had attributed to the behaviour and attitudes of colleagues, they did continue to experience some of the challenges identified pre-course. Tensions arose when nurses were unhappy about medical decisions and when different opinions persisted about treatment possibilities or goals. However, post-course nurses were more likely to take action in these situations and their explanations suggested an increased tendency to respond when they were unhappy with decisions. Frequently, areas of disagreement centred on problems of under-prescribing. For example, two day surgery nurses stated that they often requested pain relief for patients for post-procedural pain even when medical staff had decided that drug prescriptions were not routinely necessary. A medical nurse described an occasion when a patient receiving palliative care was not having his pain problems resolved. Although she had encountered difficulties with the doctor's response, she had persisted with her request to review the patients' treatment:

> I1   Well I started asking 'why are they in pain'? 'What have you
>   done about it'? Why wasn't this done'? tackling the doctors.
>   The difficult people to tackle were the consultants…they are
>   very difficult, but I kept at it.

This level of persistence and confidence to push medical staff for better outcomes was more evident with the nurses post-course. Nurses spoke about, 'standing their ground', 'not being put off' and 'questioning, just questioning' until the desired outcome for their patient was achieved. Nurses were less accepting of unsatisfactory treatment choices and described how confidence in their pain

knowledge helped them to contribute to and challenge decisions. In some respects nurses suggested their focus had shifted from one of trepidation when alerting medical staff to continued pain problems to one where the needs of the patient took priority. Theatre nurses were also more positive that they had reached a stage where they could actually challenge an anaesthetist with a degree of confidence.

> I1   Now I respond to the patient not the anaesthetist…I would
> not have done to the extent that I would now.

However, despite nurses reporting more positive responses from their medical colleagues nurses acknowledged that, on occasions, they continued to encounter lack of response from doctors and other nursing colleagues. An experienced surgical nurse suggested that some medical staff failed at times to respect nursing judgment and therefore did not always respond to their requests.

> 3G1   Trying to get a doctor to re-evaluate the patients' pain…if you
> don't feel that a doctor is taking you seriously and it get
> incredibly frustrating…and sometimes they can look down on
> you because you are only a nurse.

To some extent, the degree of confidence nurses had to challenge decisions reflected their level of nursing experience. The following extract from one of the more recently qualified nurses did not reflect the same degree of confidence expressed by most of the other nurses, however there was still determination to resolve pain problems:

> I2   I'm getting there, and I suppose really I just have to keep
> asking the doctors even if they can get a bit stroppy…maybe
> challenge things but not in a confrontational way…to make
> sure that we have thought of everything to make them pain
> free.

In one SIA, a surgical nurse described how she had challenged lack of pain interventions post-operatively for a patient who misused drugs. A senior colleague had not agreed with her request for analgesia and had sent her off the ward for

lunch. On her return to the ward the patient had discharged himself. Her sense of frustration and disappointment at what she had referred to as the 'shocking and appalling' treatment of the patient was evident. On this occasion, despite confidence in her understanding of the situation that the patient could and should be treated for his pain, the nurse felt that she was unable to challenge decisions that were being made.

> SIA2   I was powerless to do anything about it, I suppose I could have reported it to the nurse manager but it wasn't going to do me any favours or any future patients that I would be looking after, I knew it was going to be unproductive so I just let it go.

When nurses increased their involvement in, and accountability for pain care decisions and collaborated more effectively with their practice colleagues, some of the negative effects of colleagues' attitudes were reduced. Additionally, nurses assumed greater responsibility for reviewing areas of pain care that they had not identified pre-course and in consultation and collaboration with colleagues were able to suggest changes to practice that could improve the patient pain outcomes. Importantly, nurses strengthened their scope of practice by taking more responsibility for pain decisions and for achieving desired pain outcomes for their patients. Nurses also demonstrated more confidence in the value of the contribution they could make to pain care practice. Pain knowledge was instrumental in changing the confidence and self-belief of nurses to believe they could have greater influence on pain care.

7.2   SHARING KNOWLEDGE WITH COLLEAGUES

During the pre-course interviews, nurses attributed some of the blame for ineffective pain practices to their own lack of knowledge. Pre-course, all nurses had identified

pain knowledge acquisition as their main objective of course participation. They had also identified difficulties with prevailing behaviours of colleagues' and suggested that their attitudes and deficits with pain knowledge, at times contributed to ineffective pain care. Knowledge deficit was identified as a barrier both for delivery of effective, evidenced based pain care and for initiating or progressing developments in pain assessment and management practices. It was evident that post-course, most nurses also made an effort to pass on their new knowledge and pain information to their nursing colleagues. Whilst this has not been identified as a specific intervention pre-course, the extent to which nurses attempted to share their knowledge with others in practice made this a key outcome of course participation.

All nurses provided examples of work related opportunities where they passed on pain knowledge to their colleagues. In most examples, nurses described occasions when they took advantage of impromptu, patient focused learning situations, which arose in the course of their every-day practice. Unplanned teaching was therefore informal, mostly occurring on a one to one basis. Nurses suggested that passing on pain knowledge was one strategy they could use to influence and possibly alter colleagues' practice. Furthermore, most of the nurses implied that their new knowledge gave them a professional obligation to pass on pain knowledge or challenge misunderstandings about pain care.

> I1   I thought I was going to be able to help get the message across and I am doing that in a small way…you have to share your knowledge enough so everybody knows…I can say I probably explained to some of the nurses.

Many of the learning opportunities identified by nurses occurred within the context of ward reports or patient handovers. Nurses suggested the relevant and patient focused nature of the discussions made this an ideal opportunity to pass on useful

knowledge to colleagues. They also suggested that nursing colleagues were more receptive to information that could be used to solve specific patient problems.

All nurses were also student mentors and were therefore in positions where teaching students on a one to one basis in clinical practice was part of their nursing role. It is not surprising therefore that student teaching was the most reported type of teaching activity that nurses engaged in. Again, teaching usually occurred when learning opportunities presented themselves and normally when nurses were delivering direct patient care. Nurses identified a wide selection of pain topics they reviewed with their students, which essentially reflected areas of course knowledge. For example, a theatre nurse described a teaching opportunity for a student as they prepared the anaesthetic room for a patient. Significantly, she had been confident enough in her knowledge to teach the student with the anaesthetist present:

> I1   I was working with my student and I was talking about pre-emptive analgesia working with pain pathways. One of the anaesthetists' turned round to me and said 'where have you learned all that…you haven't been saying that for the last ten years'…and I just played it off and said 'how is it wrong?' and he said 'no'.

Importantly, the majority of nurses stated that they were confident passing on pain knowledge as their own understanding of the topic developed. Nurses also conveyed a sense of satisfaction as they viewed themselves as more effective student mentors.

> I2   This has made me more confident…I feel a better mentor because I have this insider knowledge now that I can pass on.

There was one example where knowledge had been passed on in a more formal and planned way. The senior nurse in Group 2 related how her knowledge had given her

confidence to organise and deliver teaching sessions for her staff. She had designed separate teaching sessions for qualified nurses and nursing assistants. Subsequently the nurses had agreed to review suitable pain tools for chronic pain assessment, an activity that was ongoing when the research ended. She stated that she had received positive feedback from these events.

> I2   I found some if hard, the anatomy and physiology…but it was
> very interesting to learn it, and I really did…and then to feel
> confident to know what I was taking it in enough to go and
> give these talks.

Only one surgical nurse failed to convey any real enthusiasm for passing on information to students or colleagues. Although she agreed that she had passed on pain information, she lacked the sense of commitment and enthusiasm that had been so vivid in other nurse's accounts.

> I1   I haven't done anything other than just doing my job...yes on
> a one to one basis I have passed on information when I was
> working and they take notice of that.

The majority of nurses described patient related situations where they tried to set good practice examples, hoping that by role modelling, rather than by direct teaching, they could also influence nursing colleagues' pain practice. For instance, a theatre nurse stated she was more aware of colleagues and nursing students observations when she practiced distraction techniques and hoped others would notice the positive effect it had on the patients. Five nurses indicated that after they had chosen to use pain tools for specific patients some of their colleagues were also more inclined to use pain tools in similar situations. These modelling approaches were more subtle than direct teaching opportunities as nurses were aware that their attempts at more direct instruction may not always have been well received. Although nurses were explicit about their obligation to pass on pain information, they

mostly recognised that this needed to be done with some insight into how the information would be received by others. This new barrier is explored in more detail at the end of this section.

Nurses demonstrated a greater awareness of knowledge resources. This awareness was most apparent in their use of evidence base to understand and support practice decisions. In pre-course interviews, there was limited evidence that nurses were always aware of evidence based sources to inform their pain practice. In contrast, post-course the majority of nurse's accessed evidenced based information and some shared their findings with their colleagues. Nurses described how they became more confident using research evidence to support and justify their practice decisions. Knowledge of research also provided them with the confidence to deliver evidence based pain care as they were assured that the research base underpinned their practice and could therefore be used to support and defend their practice decisions. A medical nurse summarised the significance of the evidence base to her practice and described the confidence she derived from it; the majority of nurses reflected a similar perspective:

> I1   I think the knowledge base has helped to sustain changes in my practice. Because the knowledge base is something that is not negotiable, it is there and it underpins the things you decide to act on.

A nurse from Group 1 expanded on the way the evidence base also gave her the added confidence to make practice suggestions to colleagues. She suggested that her pain knowledge was augmented by her familiarity with the evidence base and her ability to access the information:

> 3G1   Confidence in terms of practice and speaking to people and putting your stuff across because you know you have got the knowledge to back it up and you know where to get the

knowledge now as well if you need it.

Significantly, three nurses also described how their knowledge of research had also helped them to understand the basis of some medical decisions that they had not previously agreed with or had not understood the reasons why treatments that had appeared to work well were changed. For example, in the following extract a medical nurse described how understanding the evidence from which the consultant had made his treatment decisions meant she could more effectively support his choice of interventions with the patient:

> 3G1   The consultant, he had a very valid viewpoint…I felt less compromised because I realise this was the basis on which the decisions was made…I knew where that information was coming from…you understand why a decision about pain has been made…that empowers us at least to talk to the patient from the consultants' perspective.

Nurses also described occasions when they shared research findings with colleagues to act as a basis for discussion to review aspects of pain practice. Six nurses gave examples of articles they accessed from journals and shared with colleagues. In this respect, research evidence was mainly used to generate discussion about pain practice, although one nurse used research to support a review of pain assessment practices in her ward. This surgical nurse in Group 1 compiled literature resources about pain tools, reviewed the evidence with her manager and alerted her to research findings before initiating a review of pain assessment. The senior nurse in Group 2 described how she had regularly attached articles to the notice board for staff to read. Theatre nurses in particular noted that the more they engaged with their medical colleagues, demonstrating their interest and knowledge of pain, medical colleagues reciprocated, and sharing journal resources with them.

Nurses identified the benefits of passing on pain information to their colleagues suggesting that they influenced some aspects of colleagues' practice. When nurses estimated the effect of knowledge transference, there were some considerable differences in their perceived extent of practice impact. The senior nurse from Group 2 was confident that her teaching sessions with staff had resulted in more insight of the patients' pain condition. She had received positive feedback from her colleagues and most notably from her unqualified staff. In contrast, a junior nurse from Group 2 was more hesitant in claiming her knowledge directly influenced colleagues.

> 2G2   I don't think I influenced any major change in practice but I have been passing on information especially about my heightened awareness about the patient's pain experiences. I have said things…that we discussed in class.

Despite differences in nurses' estimation of practice impact, all did agree that there was purpose to information sharing and recognised that even if colleagues' practices had been altered in small ways this could be significant for the patient. The following extracts from individual interviews were most typical of the extent of influence nurses believed they had on their colleagues' practice and although they described small, incremental changes, they were positive about the potential significance of these practice changes for the patients' pain experience:

> I1   When I talk about changes…I may have influenced through others, I am talking about a very subtle change, but if you are the patient it is a big change…I am starting to realise It is not the big things it is the wee things.

> I2   I sometimes feel that I can impact more on an individual level between myself, and the patient and sometimes other nurses, rather than on the wider picture.

Nurses also suggested that they had become sources of information for their nursing colleagues and provided examples of situations where colleagues had sought out information and advice from them. The most common situation nurses reviewed

concerned queries about pharmacology and use of analgesia. One of theatre nurses had been asked by her colleagues to review pre-operative patient information with them. Three nurses said that colleagues had sought advice from them about enrolling for degree units and the pain course in particular. Nurses described an increased sense of self-efficacy as colleagues acknowledged their proficiency with pain care and the value of that for patient care. A nurse from Group 1 reported her pleasure when a colleague had noted her improved pain knowledge and realised that she would also benefit from pain course participation:

> I1 About two weeks ago a colleague spoke to me about doing
> the pain units and I was pleased, it had taken all this time,
> she said…'finally yes there is a need for me to do it'.

Only one surgical nurse from Group 1 stated that as far as she had been aware none of her colleagues had openly recognised her pain knowledge. She had also been the most restrained when asked about her impact on practice.

Although nurses were mostly eager to share their knowledge, finding time to do so remained a constant challenge. In the following extract a nurse recognised her obligation to pass on pain knowledge but found that lack of time affected her ability to act as a resource for nursing colleagues:

> 3G2 I should have been telling them…re-emphasising all the time.
> I couldn't always do that, because of work pressure and staff
> shortage…the time factor. Everyone has got their things to
> do and you haven't always got the time to do what you are
> meant to, even to push people in the right direction.

Although nurses were mainly enthusiastic about opportunities to pass on new pain information and responded well to positive feedback from colleagues, some nurses encountered barriers in the form of negative attitudes that made them more reticent to display their knowledge or suggest practice interventions. Some nurses

encountered ambivalence, or at times direct opposition to practice suggestions or circumstances when they passed on pain information. Nurses described how some colleagues were willing to take suggestions on board while others preferred to carry on with practice as they had always done. One theatre nurse noted that it was not until the anaesthetist sanctioned change that her senior nursing colleagues would support or accept the revised interventions. Nurses who were recently qualified felt that their influence with trained staff was more limited or they were more hesitant to approach senior colleagues with practice suggestions.

> I1   I feel sometimes as a junior nurse you are not really in a good place to tell somebody that has been doing it for the last 20 years, it is sometimes an awkward place to be in.

Nurses also suggested that the educational participation of nursing colleagues influenced their degree of receptiveness to new ideas. In some cases, nursing colleagues had not been involved in formal study for some time, and nurses felt that they, in particular, were less open to practice suggestions. A similar observation by Watt-Watson *et al* (2001) led them to suggest that nurses who lacked knowledge of their patients' pain levels and options for treatment would be unlikely to challenge the status quo. Three nurses said that their ward sisters had demonstrated little or no interest in their degree study at the outset of their course. However, two of the ward sisters later become involved in and supported practice interventions initiated by the nurses.

It was significant that some nurses had experienced direct anti-intellectual comments about pain course participation. Four nurses reported negative comments by colleagues when they were with patients or discussed course participation. The

following two extracts illustrate the nature of nursing colleagues observations about nurses pain knowledge and the muted reactions of the nurses to these comments:

I1   I had it said to me by a ward nurse…I was standing over a patient, 'well I don't need to do a degree course on pain to know this' and I thought, 'where did this come from?'...it was quite catty, but I just let it go over the top of my head

I2   If people felt as strongly about pain issues…I suggested that it might would help, 'Och she is away again, she is doing the degree, what does she know?' You know that kind of thing.

Even when nurses confronted negative attitudes about their participation in the pain course and in their efforts to pass on pain knowledge, they were willing to share knowledge with their colleagues in practice. Nurses that were recently qualified were more guarded about the reaction of their experienced colleagues but expressed enough confidence in their knowledge to share information even although it was not always well received. Nurses experienced some resistance from within their practice areas to different ways of thinking about pain care. Deference to existing medical hierarchies could also determine the success of an intervention. However, despite these barriers, mainly nurses experienced positive benefits of information sharing. Increased job satisfaction through student mentoring, encouraging reactions from colleagues and recognition of their emerging pain knowledge all contributed to increased feelings of self-efficacy about their ability to influence pain care.

7.3   RESPONDING TO EXTERNAL PAIN INITATIVES

Pre-course, nurses described how organisational issues negatively impacted on their ability to effectively assess and manage pain. Problems relating to changing patterns of care delivery and the failure of the organisations to prioritise evidence

based pain care affected the way nurses were able to instigate effective pain care practices.

During the timeframe of this inquiry, some of the nurses encountered a number of pain related developments which were initiated from their organisations. These initiatives had not been predicted at the outset of the inquiry nor had they been included in the initial actions nurse had identified in the planning phase. In fact, during the timeframe of the study, only three Group 2 nurses did not report any externally imposed changes that directly influenced pain practices within their clinical areas. I will show in this section how nurses in this study took advantage of these initiatives and subsequently participated in, or instigated pain related interventions. Consequently, some of the organisational barriers perceived by nurses as unsupportive to pain care had their impact reduced.

Nurses from both groups had relayed concerns about the rapid expansion of day surgery provision and the challenges this had created for implementation of effective pain assessment and management. Reflecting on the extent of this challenge, one nurse observed how 'procedures for day case surgery had moved on dramatically, but the bits in between that hadn't quite kept pace.' Nurses suggested that failure to implement robust policies for pain care resulted in unrelieved pain. During the time nurses were participating in this inquiry, initiatives were developed by practice areas to improve pain care for day surgery patients.

Day surgery nurses from Group 2 became part of a larger group of nurses who were evaluating a new pain assessment chart for day surgery patients. These two nurses

had also volunteered to participate in a short course to become PGD dispensers. In one SIA, a nurse from Group 2 described how her responsibility for dispensing PGD's combined with her pain knowledge had both given her confidence to inform patients about their analgesia, and had reinforced the importance of reviewing pain information in preparation for patient discharge. Some surgical nurses from Group I had also been involved in new protocols for PGD, but the implementation of these had not advanced to the same stage.

A separate external event that affected nurses in Group 1 was a review of anaesthetic and surgical practices by the Clinical Standards Board. The outcomes and recommendations from this review provided significant impetus for a review of pain care practices. One of the nurses from Group 1 took a lead role in responding to the recommendations and with her colleagues from Group 1 formed a multidisciplinary Pain Team to take initiatives forward. Before this inquiry was complete the group had reviewed pain assessment policies for patients receiving Patient Controlled Analgesia (PCA). At the time the study was complete; the Pain Team led by the nurse, had designed, and were about to pilot a new patient observation chart which incorporated pain assessment. The Pain Team developed into an established group within the hospital and became the central point for reviewing pain care.

One the most significant features of the external pain initiatives was the way in which nurses were able to respond to the opportunities these presented for enhancing pain practice. They were therefore able to respond to some of the organisational shortcomings they had identified pre-course. Nurses reported how their participation

in the pain course had given them the knowledge and confidence to involve themselves in pain initiatives. Additionally participation in the action research helped to support interventions; this assertion is explored further in Chapter 8.

7.4   CONCLUSION

In the initial problem identification phase of the inquiry, nurses had identified a range of barriers that affected their ability to deliver effective pain care. Essentially the cause of this had been attributed to their own knowledge deficit, the practice of others, particularly medical staff, failure of practice to prioritise pain care and changing patterns of care delivery.

When nurses initially reviewed possibilities for practice change, they had not at that stage identified or thought through, strategies for reducing the impact of practice barriers. Yet, as nurses took more responsibility for pain care, and demonstrated greater accountability for practice, they entered into more informed, collaborative relationships with colleagues. When nurses improved their engagement in areas of pain related activity, they found that doctors and other nursing colleagues mostly reciprocated, and opportunities were created both for sharing ideas and for increasing the potential for practice based interventions. The benefits of improved professional relationships were reported by van Niekerk and Martin (2002) and included improved satisfaction with the level of involvement in patient pain management.

In Chapter 8, I explore further the possibilities for developing communities of practice by extending opportunities for engagement and contend that this was a successful

outcome of the inquiry. The overall outcome of enhanced collaboration and improved communication was a reduction in nurses' perception of practice barriers to pain care. By changing their own practice, and becoming less critical of others, they lessened the effect of some practice barriers they had previously attributed to colleagues' behaviours rather than their own.

Pre-course, nurses had not routinely accessed research to inform their pain care and indicated limited promotion of evidenced-based sources in their practice areas. In contrast, post-course nurses demonstrated their understanding of the importance of evidence to underpin their practice interventions and significantly cited their reliance on evidence as the basis for some of their practice decisions. Nurses' awareness of evidence sources reinforced their confidence in pain knowledge and underpinned both individual and collective interventions. Nurses also felt obliged to act on their new pain knowledge and described a sense of commitment to pass on pain information to colleagues.

The key role nurses play in pain care within the multi-disciplinary team was reviewed in Chapter 2 (BPS 2003, Carr 2007). Nurses are expected to help determine pain relief, carry out pain relief interventions, evaluate the effect of pain treatments and initiate changes when required (Carrol and Bowsher 1993, McCaffery and Beebe 1994, Clarke *et al.* 1996, Nash *et al.* 1999). However, evidence from literature did not wholly confirm that nurses actually assumed this key role and research revealed that nurses' responsibility for both assessment and management of pain was, in reality, more restricted (Davies 2000b). Pre-course, nurses in this study also reported limited expectations and responsibilities regarding their role in pain care.

However, post-course the scope of nurses' responsibility and accountability for pain care was more congruent with role expectations that required them to become more active members of the multidisciplinary team.

In the planning phase of the research, nurses had not identified most of the individual and collective pain interventions they engaged in during the timeframe of the research. For example, although Group 1 nurses had made a tentative suggestion to review pain tools, a key impetus for this intervention was created by the review of anaesthetic and surgical practices. Reason and Bradbury (2006: xxii) describe how action research can respond to practical and pressing issues that emerge from organisations, a perspective that reflects the opportunities and subsequent interventions that nurses engaged in. The organisation or practice context was an important factor, which ultimately helped to determine the direction and pace of some of the pain interventions.

When practice conditions are considered, a number of factors emerged that facilitated interventions. Most importantly, all successful interventions were realistic and within the individuals nurses scope to influence. When nurses attempted to address interventions that were mainly dependant upon medical consensus, or additional resources, progress was notably slower. Thus limited progress occurred with nurses' attempts to review pain management for invasive investigations, or to establish a chronic pain clinic. Successful interventions therefore required the cooperation or sanction of practice colleagues.

In addition it is important to highlight two conditions that affected the pace and success of interventions. First, nurses indicated that their ability to influence practice was linked to their post-registration experience. Nurses who were more recently qualified reported more limited practice impact and did not possess the confidence to influence pain practice that their more experienced colleagues displayed. In addition it was the more senior nurses from both of the groups who initiated most of the interventions reported. Second, the proximity of nurses to each other in practice affected their ability to work collaboratively to influence practice. This condition is explored further in Chapter 8.

Many of the actions reported had favourable consequences for the delivery of pain care and the patient experience. Although some interventions were still in their infancy, or were ongoing at end of this research, there was an impression of progress and a sense that nurses were mainly confident in their ability to influence aspects of pain care.

Chapter 8 Outcomes of research involvement

In this chapter, I consider how the nurses' involvement in this action research study affected their ability to influence pain assessment and management practices. I examine the significant features of research participation that nurses identified which helped to create conditions for individual and collective action. Specifically, both the impact of reflective inquiry practices and the development of communities of practice are considered. Evidence supports my argument that action research inquiry helped nurses' to develop a critical and insightful approach to their pain practice which both strengthened and prolonged their engagement in pain care interventions.

8.1 REFLECTIVE INQUIRY

One of the characteristics that underpinned this action research study was the reflective approach to inquiry. This approach helped nurses to understand the conditions under which pain care occurred and assisted them to uncover new perspectives for delivering pain care, and identify possibilities for action. In Chapter 3, reflection was identified as a central tenet of the inquiry that facilitated the critical engagement of nurses in research through each phase of the action research cycle. The extent to which reflective inquiry helped nurses to develop a critical perspective of practice, proved to be a significant outcome of the study as nurses described how reflection helped them to think differently about their pain practice. Opportunities to engage in reflective practice were supported by the approaches to inquiry used in the study and in particular, by nurses' engagement in group discussions and in the construction of SIA from practice.

The nurses regarded group interviews as an enjoyable and valuable aspect of research activity which promoted individual and group reflection on pain practices. Participation in group discussions helped to facilitate both social and professional integration between the nurses and became a springboard for reflective activity. Although the group interviews had a functional purpose, as they were used to identify possibilities for pain practice interventions, they also helped nurses to review their understanding of practice by listening and paying regard to the perspectives of other nurses. Notably, the group interviews provided the nurses with a forum where they were able to explore and debate concerns about pain care in a safe environment without fear of censure or criticism. Nurses indicated that the candor and frankness demonstrated by nurses within both groups encouraged open discussions that provided unique insights into pain practices, allowing them to gain a more critical perspective of practice. Nurses suggested that such candid discussion would not normally occur in the course of their every day practice.

> I1   The group interviews, it makes you appreciate a bit more because everybody was very open and frank about things…and that gives you more insight

> I2   Because folk would never been so honest as we [the group] were, if you were sitting in a group at work because you don't want to be seen to be so critical.

Nurses suggested that their ease with group discussion and debate was promoted by two key conditions. First, they recognised that participation in the research indicated a desire by each of the nurses to improve their pain practice; in this respect nurses were united by a common interest or goal. Secondly, nurses identified the value of the non-judgmental nature of the groups. Both these conditions gave nurses freedom to discuss aspects of care that they would not normally have done.

For example, the discussions provided nurses with a safe venue to test solutions out on each other without fear of making mistakes or attracting adverse reactions from colleagues. In the following extract, the nurse described how she was reluctant to discuss patient care with nursing colleagues but felt comfortable doing this during the group discussions:

> I1   And nobody was judging you and they accepted how you worked with pain, whereas if you were at work…you don't sit and discuss how you care for people, you don't say what you do.

The freedom to talk about one's own practice without being judged by others meant that nurses could be honest about their pain practice and felt comfortable reflecting on their own shortcomings in practice or articulating areas where their knowledge was deficient. Nurses described how participation in the discussions prompted critical self-reflection, at times altering insight into their own perception of pain care. Participation in the discussions required nurses to construct their accounts and arguments so that others would understand their point of view. Information had to be organised so it could be communicated within the group(s) and was comprehensible to the other nurses. This approach encouraged a process of self-reflection that helped nurses to work through their own understandings of the conditions they were describing.

> I2   It, made me think well what am I doing? What am I trying to say? Maybe made me a bit more critical of myself when I was speaking in front of others.

By engaging in critical self-reflection nurses suggested that they went through a process similar to the one they used when writing SIA. As they were required to focus on particular issues or questions that arose in the discussions, it was

necessary to review their understanding of these areas, and identify gaps in their knowledge before they could make their perspective explicit to others.

> I1   Being involved in the interviews has affected me as it helps me to identify gaps in my thinking. When you are put in the position of being asked to respond to a certain question and to think about something, then you have to focus…it helps you to be aware of something that you need to sort through yourself before you tell others.

As nurses reviewed aspects of their pain practice, the process of group reflection was preceded by self-reflection on pain knowledge and practice. Nurses stated that the discussions encouraged then to review and reflect on what they knew and what they did. A process of dialectic thinking, cultivated by discussion between nurses and reflection back and forth between different perspectives of practice, helped nurses to arrive at new, more critical understanding of their own practice. Nurses provided examples where they stated that they arrived at a new way of seeing situations and changed their practice because of altered understandings brought about by others. A theatre nurse from Group 1 described her reaction when a nurse had challenged her perspective of post-operative pain control.

> I1   In our first [group] discussion we were talking about how well pain was managed.. I said 'good'…then B spoke up and said, 'no it is not'… and I went back and I thought about it and I watched it in practice…came back and said, 'it is not good'. But if they hadn't spoken up that night, if we had not been made to think about it, I would not have taken the problems on board so quickly.

Another example where group discussion had encouraged a nurse to re-examine her understanding of practice resulted from the second group interview between Group 2 nurses. One of the nurses related an incident where a patient had been moved unnecessarily despite her protests that this exacerbated his pain condition. Despite her strong objections, senior colleagues had overridden her concerns. In the group

discussion, nurses suggested that she should have been more forceful in her objections; however, she explained that because of her junior position she felt unable to take a more forceful stance. This account had resonated with a senior nurse in the group, who later described how she had reviewed her own practice because of that nurses' experience.

> I2   When C said she didn't want to move the patient in pain and the rest of the team moved the patient. That stuck with me…when I am working with students or newly qualified nurses I now make a point of saying, 'if you don't agree with what I am doing tell me…don't participate in something when your knowledge tells you otherwise'.

The nurses described how they continued to reflect on the discussions after the interviews were over and often carried on reviewing and clarifying information with each other when opportunities for further interaction arose. In this way, participation in the group interviews motivated some nurses to sustain their engagement in reflective discussion.

As identified in Chapter 3, SIA recording was selected as an inquiry method to complement and enrich the interview data, as well as providing nurses with a framework for reflecting on their pain care actions. SIA recording encouraged the nurses to review pain events from practice, the circumstances around the Incidents and their own role in them. The SIA encouraged nurses to engage in self-reflective inquiry and helped to revise understandings about pain care, which they could then use in future situations.

> I1   It has made me reflect, after the event and thinking through what I could have done better or that I should have taken this action or that action and then I can apply that to the next situation.

SIA encouraged the nurses to enact their experiences in a structured and objective way. By taking account of all the factors that influenced the event, nurses described how they arrived at a better understanding of their effect on patients' pain outcomes. For example, as nurses reflected on events, they reviewed the role of patients, colleagues and most significantly their own contribution to the incident. In so doing, they uncovered different interpretations and understandings of the events that arguably, they may not have done had they not engaged actively in reflection. A nurse described how the process of self-reflection was facilitated as she 'walked through' the events that surrounded Incidents she described. To uncover explanations she was forced to ask herself questions around the incident and her own role in it:

> I2   The significant incidence analysis was good…I think I did reflect, but when you are writing these you need to walk back through things in your mind…what occurred? What did you do? How did you get there?

The capacity to reconstruct events helped nurses to become more cognisant of the less obvious factors that influenced the outcome of the pain incident. They suggested that reflection required them to focus on their knowledge of events and how they affected patient outcomes. Nurses described how they uncovered aspects of the incident that would not normally have merited further consideration. They also suggested that the process of writing their incidents encouraged them to clarify their own thoughts and feelings about the events that surrounded the incident. As this had to be communicated through their writing in a way that could be understood by the researcher, the need for clarity was reinforced.

> 12   You were forced to reflect on it…you knew you really wanted to put everything together clearly so that could you could get it across…you were actually thinking about every aspect which affected the patients' pain and how you could use that

again.

By reconstructing events that surrounded the SIA, nurses were encouraged to reflect in a deeper, more meaningful way about their pain practices. One nurse described how she 'fell into reflective mode', thinking through incidents as they occurred but also 'reliving' the sequence of events when writing the account. Another nurse described how she 'immersed' herself in the incident, reconstructing the events and piecing them together to aid understanding and a new perspective of what had occurred.

Six nurses indicated that the activity of writing the incidents were also cathartic, as the process encouraged them to evaluate their feelings about the situations they described. The nurses detailed complex and challenging pain conditions where they expressed frustration at lack of progress, or slow progress to resolve the pain problems. One nurse described the feelings that emerged as she wrote about a difficult episode in practice concerning inadequate pain control for a patient who was a substance [drug] miss-user. She went on to suggest that the process of thinking and writing about the incident confirmed her feelings about the unjust decisions that were taken about the patient.

> I2   Writing about the things that made me angry, the unfair treatment of vulnerable people because I hadn't had the chance to say what I thought to anybody…so it was good to set aside the time to put it on paper and when I was doing that I was thinking, 'you are right to feel about this the way you do'.

Another nurse described how participation in research activity had given her 'a voice' that provided her with an opportunity to reflect on and discuss situations that she

would not have been available to do otherwise. It may be significant that both of these accounts were reported by nurses who had been more recently qualified.

> I1   Well this…has helped because I am still conscious of having a voice, because I don't often have the chance to speak out about things.

Two nurses also reported that they had elected to share their SIA with nursing colleagues. The nurses' critical perspectives of the SIA were well received by colleagues and had evoked considerable discussion about the incident. As a result of the revised practice perspective offered by these nurses, small changes in practice were agreed to achieve better practical outcomes for patients. For instance, one surgical nurse had shared with colleagues her dissatisfaction at the slow response to achieve effective pain relief for a patient who was terminally ill. When hospice staff became involved in the patients' care, she noted that his pain was managed better. The nurse and her colleagues subsequently agreed to arrange consultations with hospice staff on a more regular basis.

In Chapter 2 a number of issues emerged from the literature that confirmed the continued existence of extensive barriers which affected the implementation of evidence based pain care. These included deficits in organisational support systems to underpin practice delivery. One important aspect of positive organisational support which nurses in this study identified as helping their pain practice, included opportunities to discuss and review pain care with their nursing and medical colleagues. The sharing of information and suggestions for improvements in pain practice between practice colleagues were a feature of these discussions. In some respects this resembled the clinical supervision process which the NMC (2006) describe as a process of knowledge and skill development that helps registrants to

prove patient/client care. The value of this aspect of clinical supervision which features peer support and team working is emerging as a significant factor in helping nurses to understand roles of the pain team (Brown and Richardson 2006), and supporting nurse prescribing roles (Otway 2002, Stenner and Courtney 2008). This more informal aspect of clinical supervision clearly had similar benefits for the nurses in this study as they also valued opportunities to reflect on practice, share knowledge and advance opportunities for developing areas of pain practice.

To differing extents, nurses recognised the value of self-reflection, which was reflected partly in the number of incidents they chose to record. There was agreement between the researcher and nurses that they would commit to writing a minimum of two SIA. However, three nurses exceeded this agreement and submitted three different accounts. During an individual interview, a nurse from Group 1 suggested that SIA prompted her to continue using systematic reflection to understand events around difficult pain situations and she continued to write up accounts for her own use.

> I1   I am still doing another one…I haven't finished with it, I am
>   still thinking through what happened.

The benefits of actively engaging in reflective practice were made apparent by nurses' reaction to, and evaluation of, the inquiry methods that were used in this study. In particular both construction of SIA and participation in group discussions created conditions for both collaborative reflection and self-reflection on practice. Whist nurses valued the opportunity to engage in reflective practice, it is noteworthy that reflection and collaborative learning are not always regarded as being mutually beneficial. For example, referring to medical education, Bleakley (2006) questions

whether the more individual exercise of reflective practice is entirely consistent with the education practice that occurs within broader social communities He is fact disparaging of the 'mantra' of reflective practice in education which he suggests is rarely considered from a critical or empirical perspective (Bleakley 2006). While this perspective presents a number of challenges around the value and application of reflective practice in teamwork situations, the nurses in this study regarded the opportunity to engage in individual and collective reflection as a positive contribution to their understanding of pain care practice.

8.2   DEVELOPING COMMUNITIES OF PRACTICE

Communities of practice describe the connections nurses developed throughout and beyond the timeframe of the study that evolved into useful practice relationships. As nurses engaged in the study, they developed personal and professional connections with each other which helped to facilitate both research involvement and practice interventions. This engagement between nurses closely mirrors Wenger's (1998) perspective of communities of practice which he suggests, are formed by people who engage in a process of collective learning for a shared purpose. The close proximity of nurses to each other in practice was one of the factors that helped to facilitate relationships between individual nurses. However, the nurses in Group 2 worked in three different hospitals, but they also established a supportive relationship with each other. For example, one of the Group 2 nurses described how she maintained regular contact with two of the other nurses in her group because of research participation.   She described how they discussed progress with SIA recording and encouraged each other to continue participating in the study. When one of the nurses was worried that her contribution to the study had been affected by

her need to concentrate on pressing personal problems, she had been encouraged by the other nurses in her group to continue with study participation.

The nurses suggested that once they agreed to participate in the research, this had set them a bit apart from other pain course students. A nurse from Group 2 described how her research group had discussed their commitment to the study when they volunteered participation. She said that her group were interested in the possibilities of using what they were about to learn in practice and also suggested that this desire to improve pain practice had been a significant driver for their involvement:

> I2 Well we were interested at the start…you are going to try and help in some way…whereas maybe the others didn't feel like that…just doing the course for the sake of doing it.

Nurses in Group 1 described the 'closeness' that emerged from the group who had agreed to participate in the study. Nurses from this group in particular, described how their research involvement reinforced their collective sense of purpose to effect some change in practice. Wenger (1998) identifies this shared common interest as one of the defining characteristics of communities of practice.

The connections established at the outset of the research were strengthened as the research progressed. As nurses recognised their common sense of purpose and developed their relationships, they established informal support networks that emerged in the early stages of participation and were sustained throughout the timeframe of the research.

> I1 We ended up on the same wavelength because of what we have done together. We struggled together on the course, helped each other out, reminded each other about our SIA and we have built up a rapport. We can help each other in a

non-judgemental way.

These benefits of collaboration were particularly valued by a Group 1 theatre nurse who was relatively new to her practice area. As well as expressing a sense of ease with fellow nurses in her group, she suggested that research participation had helped her to integrate into her practice community and provided her with an additional means of professional support.

> I1 My participation was valuable to me as an incomer, I didn't know anybody that well, I have this link with the others…and I have a comfortable network of people I can help with from my job.

One consequence of research participation was strengthened professional relationships with the nurses who worked in close practice proximity with each other. This relationship development was most evident with Group 1 nurses who had more opportunity to meet in the course of their every day practice. Participation in the research provided them with a common bond that was reflected in their practice encounters. The bond was evident when nurses described the ease with which they interacted with each other in practice situations. In the following extract a surgical nurse reflected on her connection with the theatre nurses in her group:

> 3G1 You take a patient down to theatre and you know these staff better, we all have this insider knowledge that we shared, we shared a short time together, enjoyed our participation, I don't think you will ever lose that, you are always going to have that connection.

Not surprisingly, Group 1 nurses who worked in the same hospital provided most examples of situations where they had opportunities to meet more regularly with each other. Wenger *et al.* (2001) propose that as individuals pursue their interest and engage with each other through shared activities, discussions and information

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sharing, the developing relationships help them to learn from each other. Reflecting Wengers' proposition, the nurses described how they were more inclined to confer when they faced complex patient situations and referred each other back to course content and group discussions. Informal dialogue helped to reinforce both learning and practice, and opportunities were created where the nurses worked together to review and find solutions to pain problems.

There were a number of examples where nurses worked together to create practical solutions for pain related problems. These practice interventions were reviewed in Chapters 6 and 7. The interventions provided insight into the potential for groups to shape events if clinical conditions were supportive and receptive to change. Group 1 nurses implemented two prominent examples of collaborative practice interventions by changing post-operative transfer procedures for orthopaedic patients and developing new pain assessment charts. Furthermore, by widening participation and sharing information, nurses extended their community of practice to include other colleagues and subsequently initiatives had a greater chance of success. One of the nurses described what happened as she reflected on the strategy her group had used to revise patient transfer arrangements:

> 3G1   Because the four of us were involved, one of us could emphasise what the other had said or done, we could back each other up, that helped…plus it helped when I had discussions with other colleagues and we agreed on our approach.

The nurses from Group 2 did not have the same opportunity to work together in their day-to-day practice. The importance of close collaboration for developing practice communities was apparent when consideration was taken of their more limited opportunities for developing pain practice. The two nurses from surgical day care

valued the interaction and support they were able to give each other. Because of this support, they also felt more confident with their capacity to influence pain care.

>   3G2   I think it is easier when there are two of you doing this
>   anyway, maybe because we helped each other along
>   and we also tried to influence others in certain ways,
>   you had some backup if you suggested something.

In contrast, the two remaining Group 2 nurses who did not work in close proximity with other nurses from their group, or had the individual influence of the senior nurse in the group, did not identify the same degree of interaction with practice colleagues. As they were distant from each other in practice, they did not experience the same degree of interaction and collaboration the other nurses enjoyed. The effects of this distance were most apparent in the way it impinged on their ability and affected their confidence to interact with practice colleagues to the same extent as the other nurses participating in the research:

>   I2   Because, when you are working by yourself and
>   people are not on my wavelength, it makes things
>   more difficult.

Whilst nurses valued the interaction and support they got from each other, their enthusiasm for including other nursing and medical colleagues also helped to extend their influence and included others in their practice initiatives. Significantly, Group 1 nurses described how colleagues who previously completed the pain courses had expressed interest in their research involvement. The senior nurse from Group 2 enlisted the help of a colleague who had undertaken a palliative care course and they agreed to collaborate in future pain care initiatives. In this respect, nurses who had previously undertaken study related to pain care were regarded as valued contributors to dialogue about pain. Even although the senior nurse in Group 2 did not work with the other nurses in her research group, she included her ward

colleagues in teaching sessions and encouraged the nurses in her ward to review methods for chronic pain assessment. By sharing her knowledge, she was also able to extend her community of practice.

Communities of practice were strengthened as nurses developed their personal and professional relationships with each other. Communities of practice were extended as nurses included practice colleagues in their pain related interactions and interventions. Brown and Duguid's (1991) reference to networks of practice describes these relationships which develop as others become involved in learning activities. Additionally, Wenger (1998) refers to the fluid nature of communities, defined by the leaving and joining of members at different times. In this respect the nurses' communities of practice were dynamic as more people became involved both in learning and in implementing interventions to improve pain care.

Reflecting Wenger's (1998) key assertions that communities of practice are facilitated by individuals' motivation, their desire to learn, and by the ongoing engagement of communities to generate knowledge the findings from my research resonate with these assertions. However, Wenger gives less emphasis to the influence of organisations to both generate and support knowledge utilisation and therefore arguably provides a limited explanation of some of the research outcomes. In realty, the motivation or ability of nurses to implement and participate in pain practice interventions were also influenced by different organisational conditions, notably the adoption of externally led clinical directives.

Finally, whilst participation in this action research inquiry helped to facilitate practice connections, both the proximity of nurses to one another in clinical practice, and their ability to influence practice on an individual basis also impacted on their ability to influenced practice.

8.3   BEYOND COURSE BOUNDARIES

Some indication of the benefits nurses associated with their research involvement was evident when they reviewed their original motives for participating in the research. For example, a nurse from Group 2 described how she felt that part of the appeal of the research was to give her an 'edge' over that which she would gain solely through pain course participation. She described how she had been aware of general discussions in her practice area about the development of a pain clinic and thought that research participation would help to progress this initiative in some way. The desire to impact on practice appealed to all the nurses in the study. Although they indicated that these ideas lacked clarity at the outset of the research, they expressed a sense of anticipation and purpose about the possibility of progressing pain practice and utilising their pain knowledge to improve practice.

Nurses were mainly confident that their involvement in the research provided them with an extra dimension to their pain study that they would not have obtained just through course participation and their descriptions of such involvement provided insight into the added benefits of participation. For instance, nurses referred to the research as an 'extra layer', an 'extension of their learning', a 'forefront activity' and as 'a continuation of pain activity'. They described how the research became part of their overall learning experience and suggested that course and research activity

were complementary. The nurses were able to assimilate course work, research

activity and practice, indicating that the connections between them reinforced their

understanding of pain knowledge and practice:

> I1   There were separate activities outwith the course in a sense
> but they were all connected with our work, so together it all
> worked.

The connections nurses made between the research activity and its relevance to

their practice was most significant. The research was perceived as having practical

relevance and benefit, as it was grounded in the actual experiences of nurses, and

became increasingly significant as nurses were helped to develop their capacity for

understanding pain practice and the possibilities for practice interventions:

> I2   I felt the research gave me a more useful perspective, you
> know talking about actually doing, putting it into practice, and
> it has been that.

> I1   It made sense as time went on to take it a bit further. The
> course was the starter, gave me the knowledge and
> understanding and then the research gave me ideas to put in
> practice.

As both pain course and research progressed, nurses developed confidence in their

pain knowledge and in the possibilities for improving pain care. They were more

willing to use their knowledge of practice to inform me, as the researcher, about what

was both desirable and possible to implement in practice. For instance, even

although nurses agreed in principle with the evidence that recommended use of pain

assessment tools they maintained that practice implementation was in reality more

complex. This theatre nurse provided her perspective of practice application:

> I1   As a tutor you will have more theoretical knowledge than me
> but I can show what works in practice.

Some of the nurses indicated a growing sense of purpose about the way their continued involvement in the research increased the possibility of practice impact. This purposefulness become more evident as the research study progressed and nurses began to identify opportunities for practice development. One nurse described how involvement in the research had helped to legitimise any practice suggestions to colleagues. Essentially, she used her research involvement as a lever to persuade colleagues to accept her practice ideas.

It was apparent that, overall, nurses found that continued engagement in the study was an enjoyable and useful experience. None of the nurses expressed regret about their participation and most perceived their involvement in a very positive light. Only one Group 1 nurse appeared to be more indifferent than others were, when considering her overall experience of participation. She did not identify ongoing benefits of research participation and in general lacked the enthusiasm that had been so apparent with the other nurses. However, she did acknowledge how aspects of the research activity, prompted her practice reflection:

> I1   Probably not much difference to me to be perfectly honest
> with you, it is difficult to single out one activity that still makes
> a difference to me, but I know this [interview] still makes me
> reflect a lot more and think about pain.

One of the features of research participation was that the timeframe for the study extended beyond the pain course, which meant that nurses continued to engage in the research after they had successfully completed their course. Nurses' continued engagement with SIA, group and individual interviews helped to sustain their attention on pain related issues. To differing extents, all nurses agreed that their continued involvement in research activities helped to reinforce their intentions to

deliver good pain care practice. For example, this nurse described how her engagement in the activities for data collection continued to serve as a reminder for her practice and in particular encouraged her to remain focused on the needs of the patient:

> I1   After a while these things can slide a bit so I can definitely say that this has stopped my practice getting slack…we have continued on this theme with our accounts and interviews, and that kept reminding me this was about the patient.

Although some of the nurses continued to write SIAs after data collection was complete, the individual interviews made up the last phase of data collection. Participation in these interviews continued to act as a prompt of possibilities for practice interventions. One nurse described how her involvement in the interview had reminded her to continue pursuing solutions to prevent medical staff prescribing PRN analgesia. A medical nurse described how she continued to 'immerse' herself in situations and enjoyed 'working through' pain problems to find solutions. Significantly, nurses suggested that research participation had ensured that pain issues which they reviewed during the pain course had been kept 'alive' for them and helped to sustain their pain knowledge.

All of the nurses suggested that their successful completion of the pain course had not signalled the end of their participation in their learning or progress with pain related developments. One nurse described how she 'normally did a course and moved on' but her engagement in the research helped to sustain her knowledge and interest in pain care. Nurses conveyed a sense of expectation that they would continue to investigate and develop their pain practice:

> I1   I can't say when I am finished with this. But we haven't really finished this research in a sense…that's what I feel.

I2   But I will still develop strands that I maybe would not have
      otherwise done.

A Group I nurse summed up the estimated impact of research participation:

3G1   But would we be thinking like this without our research
      involvement? I don't know, I don't think so.

8.4   RESEARCH OWNERSHIP

The final section of this Chapter considers how nurses regarded ownership of the research and how their perspective of it evolved as the inquiry progressed.   In Chapter 2, issues around collaboration and research ownership were explored, including the unavoidable challenge of achieving authentic collaboration with the participants when the research had been externally initiated.   Nurses in this study provided some insight into their own perception of research ownership which acknowledged both the origins of the inquiry, their own and the researcher's place within it.

The previous sections of this Chapter have indicated that nurses' motivation to engage in the research was driven by an expectation that their participation would strengthen and augment knowledge acquired through pain course participation and by their desire to improve pain practice. Although nurses did acknowledge that their contribution was central to the development of the inquiry and the doctoral study, they also expected to gain personally from their participation:

I2   Just as we agreed to take part in the research, this was not
      just for you, but for us, part of it has been for all of us.

Significantly, nurses were aware of the importance of their contribution to the research and because of this were mindful of the need to contribute to the data when opportunities arose and were attentive of the information that could contribute to the inquiry:

> I1 Well, we discuss it between us…chat about it and say this might help Annetta with her research if we keep this in mind and we will tell her when we can.

As both course teacher and researcher, the potential for me to influence the direction of the research was significant. Nurses did acknowledge that my presence influenced their thinking about the possibilities for action and, in particular, continued to provide an impetus for pursuing their practice interventions. However, nurses brought different values and interests to the inquiry that influenced the direction of the research and the eventual outcomes. Those nurses who had made a significant investment in the research activity regarded the research as their own. Any interventions that transpired in practice were initiated and implemented by them. Furthermore, nurses' determination to drive and sustain developments beyond the timeframe of the research underpinned their sense of ownership and control. Nurses' descriptions of their position in the study reinforced this sense of ownership:

> I1 To me it feels like it is just part of my study, I don't think of it as your research, it was all part of my study.

> I2 I don't think I have been thinking about my involvement as just your research project, although I know that is what you are doing.

Herr and Anderson (2005:82) describe how in some approaches to action research, the research questions may not be developed by the group but are conceived by the researcher. Throughout the inquiry, participants then cooperate with the researcher and contribute to the data but are also involved in processes that could have

implications for them (Herr and Anderson 2005). This perspective of collaboration partially reflects the nurses' view of research participation. Whilst they contributed to data for my study, they also had a personal investment in the inquiry and were affected by that investment, through either the inquiry processes or their practice interventions. I would argue that most nurses' perception of study ownership supported my belief that authentic collaboration was a feature of this inquiry.

8.5 CONCLUSION

In this Chapter I have examined the evidence that supports the premise that nurses' participation in the research study contributed to their critical understanding of pain practices. Involvement in the research helped to create opportunities for interaction and practice development that would not have occurred solely through pain course participation.

There were a number of key features that nurses identified which supported their participation in the study and were regarded as attributes for pain practice development. In particular, nurses from both groups came together with the common goal of improving pain practices. Importantly, nurses demonstrated commitment to their research engagement from the outset of the study. Their motivation for research participation was driven mainly by a desire to improve some aspect of pain practice and to use knowledge gained through pain course participation in their practice. A common interest in practice improvement helped to form a unique connection between nurses in each of the groups that also fostered supportive practice networks in areas where nurses worked closely together. These networks helped to support practice interventions.

Settings were created by research inquiry practices that supported opportunities for collective reflection on practice. From the outset of the inquiry, nurses were themselves beginning to research their own practice through group discussions. Reason and Bradbury (2006: xxii) describe how action research has the potential to create 'communicative spaces' where dialogue and development can flourish together. The group discussions provided opportunities where communicative spaces were created in safe yet challenging environments and the discourse between nurses acted as a springboard for their future actions. Communication between nurses continued to flourish outwith the group discussions and in particular were evident where nurses worked in close proximity with each other.

Nurses also engaged in critical self-reflection, prompted by their interactions with others and through reflection on their own practice. By drawing on their own and others experiences and through a process of self-questioning, nurses described how they achieved revised understandings about practice. In this respect, self-reflection acted as a core and dynamic ingredient for nurses' inquiry, which helped them to not only problem solve but also to review or transform perspectives of practice. For some nurses, reflection became a sustaining method for continued self-inquiry into their practice.

In Chapter 3, I referred to one of the distinctive features of action research as its potential for participants to locate their inquiry in their social world and in so doing, involve others in aspects of the research. There was therefore an expectation that a widening circle of those affected by practice would be involved in the research process (Carr and Kemmis 1986). As nurses progressed with their review of pain

practice, they involved practice colleagues in their discussions and practice initiatives. The evidence of extended collaboration and its pivotal contribution to broadening involvement in pain care was described in Chapter 7, where reports of collaborative work and knowledge sharing provided evidence of broadened involvement. An apt description of this potential to increase the involvement of practice colleagues in research activity is provided by Friedman (2006) who refers to the creation of communities of inquiry within communities of practice. As some nurses engaged with their colleagues and involved them in practice interventions, they helped to create communities of inquiry that acted as further stimulus for practice development.

Most nurses recognised how research participation complemented and extended their understanding of pain care and provided them with a critical insight into practice. Participation in the research sowed the seed for new patterns of collaborative behaviour and critical inquiry, and work on pain interventions continued beyond the timeframe of the research.

Achieving authentic collaboration is one of the challenges of externally generated inquiry. In this study indicators of collaboration were evident as nurses undertook review of their own practices, determined and implemented their own practice interventions, and were positive about their engagement in the processes that supported the phases of the inquiry.

Chapter 9 Conclusion and discussion

9.1   INTRODUCTION

In this Chapter, I discuss how I have advanced understanding of the way nurses use pain knowledge, acquired through continuing education participation, in their practice. From the outcomes of the research it was evident that nurses' participation in action research increased the possibilities of practice interventions. In essence, the research formed an interconnected, double layer of inquiry from which emerged three areas of knowledge.

The first layer examined the way in which nurses used pain knowledge to develop aspects of their pain practice. In Chapter 2 of this thesis, findings from the review of literature confirmed the knowledge gap that exists about the way nurses are able to apply theory gained through pain course participation in their practice. Accounts of individual and collaborative interventions in Chapters 6 and 7 reported how nurses' in my study selected and applied theoretical evidence to improve pain care within the context of their practice. Findings from these chapters support my first contribution to knowledge about transfer of pain education into practice. Specifically, the inquiry informs us how these nurses were able to use pain knowledge to enhance their pain practice and provides insight into the conditions that promoted application of that pain knowledge.

Whilst the literature was informative about the barriers to effective pain care nurses encountered in their practice, there was limited evidence that informed us about how

nurses used their knowledge to overcome these barriers. Thus, this inquiry also contributes to an understanding of strategies the nurses used to overcome some of the practice barriers they encountered following participation in a pain course and in action research inquiry.

The second layer of inquiry examined the utility of using action research as a means of bridging barriers that exist between pain theory and practice. In other words, this layer was about 'researching the experience of participation in the research'. This research, therefore, also informs about the aspects of the action research inquiry that the nurses regarded as constructive and worthwhile for improving pain practice.

In this final chapter, I draw together the findings from this action research inquiry and review the evidence that supports the three knowledge claims previously outlined. In Sections 9.2 to 9.4, I specify my substantive theory and identify the relationship of the theory to my research questions. The interconnectedness of the research process means that I draw on evidence from the whole inquiry that informed each of the research questions. The discussion for these three sections is presented as follows. I specify my substantive findings and then discuss the implications of these findings for the nurses' pain practice.

In Section 9.5, I consider the potential and limitations of this study and argue that although my inquiry contributes to local knowledge about pain education and pain care, findings also have relevance for a wider knowledge base. I review the significance of my findings for continuing pain education practice and for broader

areas of professional nurse education. Section 9.6 concludes with recommendations for further research.

Having briefly identified the knowledge areas developed through the inquiry, I address each of the research questions and explore the evidence that underpins my knowledge claims. Based upon the substantive issues raised in the literature, the research questions were:

- How do nurses use knowledge gained during a pain course in their clinical practice?

- How do nurses negotiate barriers in their clinical environments to improve pain practices following participation in a pain course?

- How does engagement in action research affect nurses' capacity to influence pain assessment and management practices?

9.2   USING PAIN KNOWLEDGE IN PRACTICE

I found that nurses in my study demonstrated greater patient-centeredness and enhanced accountability for pain care post-course. The findings confirm that that when these nurses gained an informed understanding of the origin and complexity of the patients' pain experience they revised their approaches to pain assessment and management practices. Two key conditions emerged from the inquiry that promoted a patient-centred approach to pain care and reinforced nurses' accountability for their pain practice. These were the nurses' enhanced knowledge about the specific and individual characteristics of pain and the nurses' engagement in practice reflection. I will now discuss each of these findings.

The review of pain literature in Chapter 2 highlights a range of inconsistencies between evidenced based recommendations for good pain practice and the reality of nurses' and patients' experiences in the delivery of pain care. Notably, pain assessment and management practices should primarily focus on the patients' experience and a systematic assessment of their condition, but research indicates that nurses' decisions about the patients' pain and the management of that pain were often influenced more by their own attitudes and misconceptions. Consequently, nurses have been shown to give prominence to their own perceptions rather than direct response from patients (Clarke *et al.* 1996, Schafheutle *et al.* 2001). Similarly, the evidence in Chapter 5 confirms that the nurses in my study held beliefs pre-course about patients in pain that were comparable to findings reported in research. Findings from the pre-course interviews demonstrated a lack of faith in patients' self-report and suggested that some of the nurses had pre-conceived notions of what pain levels should be and about how pain would be expressed by the patient. Crucially, they also did not have the expectation that the patient would be pain free all of the time.

Post-course, I found that the nurses described a more patient-centred approach to their pain practice. They placed greater emphasis on the unique quality of the pain experience and consequently, on the impact of pain for the individual patient. Changes in attitudes were demonstrated as nurses made comparisons to their pain assessment and management approaches pre and post-course. For example, post-course they described how their understanding of the physiology of pain and the patients' pain history influenced their appreciation of the uniqueness of each patients' condition.

The study outcomes also confirm that nurses demonstrated an increased awareness of patient-centred approaches to pain care. They described how they suspended personal judgments, were more likely to believe patients' pain reports and encouraged greater patient participation in pain care. For example, post-course the nurses described how they were more influenced by the patients' self-report rather than their own estimations of what the pain level may be. As a related issue, I found that nurses were more inclined to engage with their patients to gain an understanding of the patients' pain perspective; this was particularly evident when nurses described the challenging pain conditions they encountered.

It was important to identify a caution in relation to my findings about patient-centeredness. Despite my confidence that nurses did demonstrate a more patient-centred approach to pain care, I recognised some reluctance to use pain tools for regular and systematic pain assessment post-course. Although the nurses indicated that they were more likely to use pain tools post-course, they did not use them routinely. Patient-centred pain assessment is underpinned by systematic evaluation of their pain and in this respect; I suggest that failure to use pain tools may not reflect fully the claim that patient-centred pain care was more evident. However, as I show later in the Chapter, adoption of pain tools into practice became an important and sustaining practice intervention for some of the nurses.

When the nurses appreciated the significance of the individual nature of pain and acknowledged the importance of patients' own reports, I found that there was an accompanying shift in the way they described their approach to patients. Specifically, nurses' descriptions of patient interactions post-course revealed mainly

evidence of greater therapeutic engagement, which nurses proposed provided them with an enhanced understanding of the patients' pain condition.

When considering the impact of patient-centred pain care, I would suggest that it is reasonable to assume that congruence between patients' and nurses' estimation of pain led to improved therapeutic outcomes for patients. Research demonstrates how lack of agreement about pain experience between patients and nurses leads to ineffective pain relief interventions (Cleeland *et al.* 1994, De Rond *et al.* 1999, Watt-Watson *et al.* 2001). Conversely, pain care is most effective when agreement exists between patients' and nurses' estimation of pain (Holley *et al.* 2005). Simply put, the better informed the nurses were about the patients' pain, the more appropriate their actions would be for responding effectively to the patient.

A further key finding that emerged from the study was the nurses' enhanced awareness of their accountability for pain care. Research reviewed in Chapter 2 confirms that expectations of accountability for pain care were not always matched by nurses' beliefs or actions (Carrol and Bowsher 1993, McCaffery and Beebe 1994, Clarke *et al.* 1996, Nash *et al.* 1999). Consequently, this lack of accountability constitutes a major barrier to appropriate assessment and management of pain (Innis *et al.* 2004, Carr 2007). The findings in Chapter 5, supported the premise that pre-course, the nurses in this study held similar views to those reported in literature and mostly demonstrated limited accountability for pain assessment and management practices. Post-course, findings from the study confirm that the nurses both recognised and accepted that they were accountable for ensuring pain was assessed and managed appropriately. The research findings showed how these

nurses demonstrated accountability for pain care as they revealed how they took more responsibility for pain care decisions. I also found that enhanced accountability was further demonstrated by their willingness to access evidence-based sources to inform their pain practice.

The nurses described greater efforts to ensure patients were pain free and, importantly, were less accepting of unresolved pain. They were more likely to challenge doctors and nursing colleagues when they deemed pain care practices to be ineffective or inappropriate. During this study, the nurses were not involved in drug prescribing, but post-course believed that they were in a key position to influence pain management decisions. For instance, they demonstrated greater accountability post-course by questioning prescribing decisions more than they had pre-course and adopted a more informed approach to drug administration. This change in accountability was particularly significant as pre-course the nurses had attributed some deficits in pain practice to problems of medical prescribing, and to an extent, had distanced themselves from some of the responsibility for pain management interventions.

When the impact of enhanced accountability around pain care is considered, I suggest that there would be a corresponding impact on patients' pain experience as the nurses endeavoured to ensure that pain relief was appropriate and effective. If, as Carr (2007) suggests, lack of individual accountability lessens the chances of effective pain management solutions, conversely, enhanced accountability should improve pain outcomes. The literature also concludes that enhanced accountably by

nurses improves pain outcomes for patients (Copp 1996, McCaffrey and Ferrell 1997, Pasero and McCaffery 2004).

In my findings, two key conditions emerged from that promoted a patient-centred approach to pain care and reinforced nurses' sense of accountability for their pain practice. The first condition relates to the knowledge the nurses acquired through pain course participation. They described how their understanding of the bio-psychosocial determinants of pain and the connections between them, helped them to understand and accept the unique and individual nature of pain experience. Post-course, nurses illustrated how this knowledge had changed the way they approached patients and their pain problems. For example, post-course the nurses described how they gave precedence to the individual experience of pain over the patients' diagnosis or surgical procedure.

The second condition that helped to facilitate changes in pain care related to nurses' participation in the action inquiry and particularly the opportunities this created for practice reflection. In the first phase of the inquiry, the nurses identified problems with pain practice within their clinical areas and recognised deficits with their own knowledge and practice. Reflective discussion stimulated ongoing debate about pain practice and clarified the conditions that adversely affected the delivery of effective pain care. I found that by engagement in reflective inquiry, the nurses developed a critical understanding of the circumstances around delivery of pain care and recognised the centrality of their own role for the care of the patient in pain.

The importance of developing practitioners who are critical thinkers and reflective practioners has been documented extensively in nursing literature. In fact, Rolfe (1998) went as far as to suggest that it did not matter how much knowledge a nurse had, if they did not reflect on their practice and learn from this, practice would not improve. Nurse educators have been encouraged to consider using reflection to prepare nurses to manage pain effectively (Carr and Mann 2000, Twycross 2002), but from literature reviewed, the outcomes of this activity for pain practice have not so far been reported. The findings from this study confirm how reflection on practice can be used to bring about changes in pain care. Thus, recommendations to use reflection are supported by evidence of positive impact from this inquiry.

I found that nurses' pain knowledge and their critical understanding of practice were complementary processes that worked together to influence their pain care. I later argue, that reflection also acted as an impetus for reviewing possibilities for pain practice development and increased the potential for some of the nurses collectively to change pain practice.

9.3   OVERCOMING PRACTICE BARRIERS

In this section, I show how the nurses in this study used strategies to minimise the effect of practice barriers that impeded the delivery of effective pain care. Specifically findings from the research confirmed that nurses used a range of strategies to initiate and improve collaborative working practices. In turn, these strategies helped to diminish the impact of some barriers, to which pre-course, ineffective pain care practices had been attributed. The research findings also show how nurses were able to respond to some of the challenges created by

organisational change. They did so by using opportunities these changes created to develop their own professional practice and to initiate practice interventions.

The literature review in Chapter 2, confirmed the continued existence of challenges posed by practice barriers to the implementation of effective pain care. Nurses in this study also reported barriers throughout the timeframe of the inquiry and particularly in the pre-course interviews. In Chapter 5, I reported that, pre-course, nurses viewed the patients' themselves as constituting a significant barrier to effective pain assessment and management. In contrast, post-course I argue that the absence of data referring to patient barriers provides clear evidence that post-course, these nurses did not view the patients as a barrier to effective pain care. I suggest that improved therapeutic engagement with patients, as discussed in the previous section of this Chapter contributed to this altered perception.

A further barrier nurses identified pre-course was the practice, attitudes and beliefs of other colleagues towards pain care. Drawing from evidence in Chapter 5, I concluded that nurses in my study regarded nursing and medical colleagues as causing significant barriers to the delivery of effective pain care. Additionally, as a related point, nurses described limited evidence of collaboration to resolve pain problems. From the outcomes of the research it was evident that post-course, nurses overcame or reduced the effect of some of these barriers by developing more collaborative approaches to pain practice.

I found that most nurses described opportunities post-course where they had shared some of the information they had gained on the pain course. They achieved this in a

range of ways. Mostly, informal opportunities that arose in practice were used to pass on pain knowledge and information sources. Nurses took advantage of circumstances presented during their every-day practice to inform colleagues and student nurses about pain care. Additionally, some of the nurses described situations where they consciously acted as role models for good pain care practices and hoped that colleagues would become aware of the practice examples they were setting. The nurses did indicate that on some occasions their colleagues responded positively to these examples. For instance, some participants suggested that their colleagues had themselves elected to use pain tools after seeing them being used in practice by the nurses in this study. Some nurses also referred to opportunities when they helped nursing and medical colleagues to manage pain more effectively and offered suggestions for pain relief interventions.

Research findings also indicate that nurses were mostly confident that medical colleagues responded positively both to their increased involvement and accountability for pain care. Although some of the nurses continued to express frustration with their medical colleagues post-course, their reference to this barrier reduced significantly and improved working practices were more evident than they were pre-course.

Drawing from the data, I observed that instances of informal teaching described by the nurses were mainly patient centred. With reference to the arguments made in section 2.7 some important inferences can be drawn. The first reflects Macmurray's (1957) assertion that useful knowledge is one that solves practical rather than theoretical problems. This assertion resonates with the teaching examples given by

nurses, whereby they used opportunities to pass on pain knowledge to help explain or solve a patients' pain problem. Additionally, literature in section 2.7 confirmed that informal contact with colleagues was one of the most important sources for learning about pain management (Fuller and Conner 1997, Clarke *et al.*1996 Nash *et al.*1999). With reference to this body of evidence and the findings from my study, it seems that the impact of pain knowledge extended beyond the immediate pain course participants and was used by some of their practice colleagues.

The progression of informal knowledge dissemination has been described by Brown and Duguid (2001: 209) as 'knowledge that travels along networks, built by practice'. Importantly, they concluded that knowledge dissemination is dependent upon the degree to which members of different practice communities communicate and understand each other. I would contend further, that the impact of knowledge dissemination was dependant on the nurses' sense of obligation to pass on information and their ability to do so. Thus, whilst a senior nurse was confident enough to organise teaching sessions for her staff, more recently qualified nurses' were more reluctant to pass on information. Furthermore, I found that some of the nurses described their 'ethical obligation' to pass on their pain knowledge to colleagues when they thought knowledge would improve pain interventions for the patient.

I found, therefore that communities of practice were enhanced and extended as nurses involved colleagues in pain practice initiatives. Thus communities of practice were supported by nurses' action research involvement and became a platform for more collaborative learning and the instigation of pain related interventions. Drawing

from the interventions reported in Chapters 6 and 7, some of the participants in this study involved nursing and medical colleagues in pain related initiatives. These interventions included: theatre transfer protocols, teaching sessions and development of pain assessment charts. I suggest that the ultimate success of these initiatives were dependant on a range of factors, but importantly on the agreement and involvement of practice colleagues. Andrew *et al.* (2008) suggest that sharing of practice and promoting professional collaboration define a professional community. These are both important factors as delivery of effective pain care is dependant upon collaboration of all those involved in the care of the patient. Enhanced collaboration helped to diminish some the communication related practice barriers the nurses had identified pre-course. In later sections of this Chapter, I review the other facilitating factors, which supported practice interventions.

Other significant barriers to pain practice that nurses identified pre-course included, changing practice environments, uncertainties that existed within some organisations and organisation of patient care. For example, in Chapter 5, lack of time, diverse patient conditions and rapid throughput of patients were reported as barriers to pain care. The outcomes of the research demonstrate how nurses responded to some of these challenges in a variety of ways using opportunities to develop their own professional practice and to initiate practice interventions.

The rise in day care provision and the problems this created for effective pain assessment and management were identified as consistently one of the most difficult organisational barriers encountered by some of the nurses from both groups.

Although nurses could not alter care delivery systems, I found that they were able to respond to some of the problems they had identified pre-course by participating in initiatives, like Patient Group Directions, which helped to improve aspects of pain care provision. It is certain that challenges posed by organisational change will remain and in some cases will accelerate. For instance, there are likely to be further substantial increases in day surgery. The NHS plan (2000) has set a target of 75% of elective surgery to be performed as day cases. Currently in Scotland, around 66% of all procedures performed in surgical specialties are carried out as day case or outpatient. To reach a 75% target, approximately 40,000 elective inpatient procedures need to be converted to day cases or outpatients in a year (Scottish Government 2006b).

An unexpected external event that affected nurses in Group 1 was the review of anaesthetic and surgical practices by the Clinical Standards Board. The research outcomes showed how some nurses took advantage of the opportunities this review created to develop a strategy for pain assessment within the organisation. I suggest that significant features of this initiative reflected the way the nurses were able to respond to the recommendations and extended their community of practice to include other practice colleagues in interventions.

I suggest that three main conditions helped the nurses to respond to practice developments and encouraged them to extend their practice collaboration, thereby reducing the effect of some practice barriers. First, nurses' improved knowledge base gave them the confidence to become more involved in practice initiatives. An underpinning knowledge base and the confidence to access evidence based sources

provided them with greater assurance in their ability to support practice change. This appeared to apply to both individual and collective interventions.

The second condition relates to the participatory character of action research. I found that the collective impact on practice was greatest when nurses from this study were able to work together and support each other with practice initiatives. However, two of the nurses in Group 2, who did not have contact with their fellow participants in clinical practice did not instigate or participate in collaborative pain developments. This further reinforces the argument raised in section 2.7 that changes in the delivery of pain care need to be supported thorough collaborative processes.

Characteristically, there will always be external pressures and changes within health care. Even within the timeframe of this research, external events occurred which made a significant impact on the pain interventions some of the nurses elected to pursue. Because action research is concerned with an understanding of the conditions in which practice occurs, the flexibility of this approach to inquiry is I suggest, relevant to the health care context. This conviction is shared by Waterman *et al.* (2001:52) who commend action research's ability to be responsive and flexible and provide feedback in complex social situations. Reflecting this flexibility, the nurses' were able to act on unexpected opportunities to improve aspects of pain care.

Finally, in this section I maintain that some barriers to pain practice did persist and significantly, nurses identified new barriers post-course. I found that the nurses'

perceived level of practice influence was inextricably linked to their experience. This constitutes the third condition that determined nurses' response to practice developments. Nurses who were more recently qualified found it more difficult to challenge decisions that they were unhappy about and described circumstances where more experienced colleagues disregarded their opinions. A few nurses also experienced anti-intellectual comments from their practice colleagues about their involvement in the pain course. This finding was also reported by Holley *et al. (*2005). It appears, therefore, that even when nurses have the knowledge they may not always the authority to change practice.

9.4   ACTION RESEARCH AND PRACTICE CHANGE

In this section, I discuss how nurses' participation in action research enhanced their capacity to transfer pain theory into practice and increased their opportunity to influence pain care in practice. Although Jordan (2000:467) observes that the impact between research and course participation may be indistinguishable, I show how a review of the characteristics of action research help to illuminate successful features of research participation. The study confirms that nurses' perspective of the value of action research and the merits of the processes they engaged in demonstrated the benefits of research participation for their practice. I relate my findings in this section to the characteristics of action research as described in section 3.3.

9.4.1 Participatory nature of action research

In section 3.3.1, I identified three potential approaches to participation that had application to my study. The first of these was participation between myself as

researcher and the participants. I suggest that this formed a central aspect of the inquiry. My argument is that without my input, the inquiry would not have been initiated and sustained. I maintain that as a facilitator of the research I was able to help clarify issues that emerged from practice and supported nurses as they moved through the stages of the inquiry. However, I emphasise that my relationship with the nurses was not directive, as I encouraged them to reflect critically on their own practice, to identify their own possibilities for action and evaluate their own interventions. I am confident that this approach helped to facilitate nurses' sense of ownership of the research. Evidence reported in section 8.5 substantiates this finding where some nurses described this research as part of their own inquiry into practice.

Rather challengingly, Herr and Anderson (2005:44) also draw attention to the researchers' obligation to interrogate their multiple positions in the research. I previously addressed both the tensions and benefits of the teacher as researcher in section 4.5. I accept that to form a satisfactory response to Herr and Andersons' challenge, I would need to examine critically my own role as teacher and the effect of this on course participants. In section 4.5.1, I concluded that first person action research can provide a critical method for examining one's own practice, I maintain that examination of my role as teacher was not the purpose of this inquiry and was not wholly relevant to the research questions.

The second aspect of participation relates to the relationships that developed between nurses in each of the groups. I found that these relationships were beneficial both on professional and personal levels and were important for the

progress and outcomes of the research. From the outset of the research, each of the groups participated in practice inquiry; reviewing pain practices, identifying problems in their practice and the possibilities for action. The group processes and interactions between nurses in the groups encouraged critical reflection of pain practice. I would suggest that the nurses' critical examination of pain practice complemented their acquisition of pain knowledge, fulfilling an essential aim of action research by improving their understanding of practice (Carr and Kemmis 1986).

Nurses from each of the groups formed supportive networks with each other that were sustained throughout the research. The research findings demonstrate how nurses' valued these relationships from a number of perspectives. The nurses in Group 1 described how their personal practice connections were strengthened by their research participation, a factor that also supported a collaborative approach to practice interventions. Nurses in Group 2 also valued the non-judgmental support from their smaller group. They developed a supportive social network; however the impact of their connections in practice was limited as the nurses' were based in three different hospitals. When making inter-group comparisons an important point to highlight was the absence of significant differences in opinions about pain care between the two groups of nurses. Knodel (1993) provides one likely explanation for nurses holding similar perspectives of pain practice. Knodel (1993: 49) states, that 'it is likely that views or experiences are being tapped that are common to a shared underlying culture within the broader population'.

The third level of participation relates to collaboration that extended into the nurses' practice areas. I have previously concluded that nurses extended their communities

of practice and included both nursing and medical colleagues at varying levels throughout the inquiry. I found that this level of involvement reflected Carr and Kemmis's (1986) expectations that as the research progressed it would include a widening circle of those affected by practice.

9.4.2 Investigation into social practices

I have previously argued that this research facilitated critical enquiry by the nurses into pain practices. Reason (2003:208) points out that the participative research process is at its best when it develops the capacity both for individual and collective inquiry. Examination of practice by the nurses reflected this tenet and was facilitated by the activities nurses' engaged in. For example, in their appraisal of research participation, most nurses maintained that group interviews and SIA helped them to understand practice conditions. Practice inquiry was not a 'once only' activity but continued throughout the study as the nurses progressed through the phases of the research.

In section 3.3.3, I concluded that evidence from the literature verified that participants who investigated their own practice were more likely to identify and implement appropriate interventions to change practice. I found that the nurses' engagement in the first phase of the inquiry reflected this assertion. Review of pain practices helped nurses to recognise the disparities between actual practice and recommended practice. Additionally, practice reflection helped them to identify the practice barriers that impeded delivery of effective pain care.

9.4.3   Contribution to practice change

Reflecting the principles of action research identified by Carr and Kemmis (1986), the findings from the study confirm that that improvement of pain practice occurred on individual and collective levels.   Both the individual changes and collective interventions, that nurses participated in, were reported previously in this Chapter. Carr and Kemmis (1986:165) further maintain that practice enhancement encompasses improvement of the situation in which practice takes place.   Although the two complementary principles of, improvement of practice and the situation in which practice occurs, contribute to the basic aims of action research, I found that the nurses' ability broadly to change their practice environments was not a realistic expectation.

The research evidence is such, that I propose a number of factors influenced the success of individual and collective interventions. Findings suggest that nurses were more willing to address problems that they themselves identified, which had direct relevance for their pain practice.   I also maintain that interventions were more successful when they were perceived as being realistic and within the individual nurses' scope to change or influence.   As a related point, I propose that pain interventions reflected the skills and knowledge that the nurses developed throughout their participation in the pain course.   Finally, the motivation of each individual nurse was a significant determinant in their engagement in practice change. I found that all the nurses who participated in this inquiry demonstrated commitment to their involvement in the research and contributed to all areas of the inquiry.   However, there were some differences between individuals in their

motivation to influence practice change. Meyer (2000a) accepts this as an inevitability of participation.

When comparisons are made between the possibilities for action the nurses identified at the outset of the research and the individual and collective actions they did participate in, I found that some actions had not been identified in the early phases of the research. In section 3.8.2, I argued that actions would be influenced by nurses' developing pain knowledge and by practice conditions. I found that nurses' took advantage of situations that arose within their practice to participate in pain practice interventions. Additionally, findings confirm that when practice conditions were favourable, when conditions were receptive to suggestions for improving pain care, or were subjected to external pressures to alter pain practice, nurses' interventions had more chance of success. Rather than being critical of this unpredictable approach to inquiry, I consider it an inevitable and realistic interpretation of health care action research. In agreement, Waterman *et al.* (2001:3) recognise that outcomes of action research projects can change as participants' priorities develop and change.

9.4.4 Development of theory

At various points throughout this thesis I have identified two areas of knowledge which were relevant to my inquiry. Specifically I maintained that our understanding of how nurses use pain knowledge in their practice could be advanced by considering practical and propositional knowledge. I established that practical knowledge was explained by what nurses did in their practice or how they applied pain theory in their practice. Propositional knowledge emerged from the

explanations of the conditions under which actions were carried out. If, as Carr and Kemmis (1986:192) argue, praxis, described as 'informed and committed action' gives us a particular perspective into the practitioners' practice, then I maintain that action research is a method that helps to uncover praxis. In other words, action research worked simultaneously, to extend understanding of how nurses' used pain knowledge in their practice and supported practice change.

Lewin (1946) maintained that the aim of action research was not only to improve practice but to encourage a particular understanding of that practice and the social context in which it has been undertaken. This informed approach to understanding practice develops from the reflective interplay between action or intervention, the thinking behind actions undertaken and the decisions made. In other words, praxis in this research uncovered the reasoning behind nurses decisions to act (or not to act) to improve aspects of pain care. Praxis helps us to understand which determinants influenced nurses' decisions, either individually or collectively to change pain practice.

9.5   LIMITATIONS AND IMPLICATIONS OF RESEARCH FINDINGS

Limitations of this study relate mainly to issues of external validity and the ability to generalise the findings from this study into other settings and populations. This study used a small, self-selecting, convenience sample of Registered Nurses whose commitment to the study and to improvement of their pain practice affected positively the progress and outcomes of the inquiry. Additionally, consideration needs to be given to the context in which actions occurred. Thus, the findings were dependent

upon the way in which actions were performed by these specific nurses in their specific clinical situations. Therefore, pain interventions were regarded as being local to the nurses' situation and consequently, it could be argued, had limited relevance, or direct application outside the context(s) being studied.

In recognition of these limitations, Lathlean (2006:418), referring to qualitative research, questions whether it is accepted that all situations are unique and therefore proposes that only tentative generalisations may be possible anyway. Offering a related solution to the limitations of external validity, Brown (2001:5) proposes that action research can provide a tentative hypothesis which can be 'shared with others working in similar though not identical environments'. With reference to the research methods reviewed in section 4.7, I previously maintained that the intention of this research was not to produce findings that could be generalised conclusively, yet I agree that tentative hypothesis can be proposed.

In Chapter 2, I confirmed that the main aim of any pain education course is improvement of pain practice that ultimately leads to reduced suffering and better patient outcomes. I suggest that my findings have implications for the way we teach about pain education and prepare nurses to deliver effective pain care in a continually shifting health care environment. Reflecting Browns' (2001) proposal to suggest tentative hypothesis, I now discuss the implications of my findings for pain education and suggest that adoption of findings into pain course development may contribute to improved knowledge transfer and improved patient outcomes.

To begin, I suggest that short pain education courses only provide a superficial overview of pain theory. Additionally, as reported in Chapter 2, evidence supports strongly the argument that short courses are not sustaining in terms of practice change. My observation here is not original, as I have previously identified research findings from pain courses, which confirm the correlation between length of education input and degree of impact (Camp-Sorrell and O'Sullivan 1991, Dahlman *et al.* 1999, McMillan 2005, Young *et al.* 2006). Consequently, I agree with the proposition that pain education needs to be ongoing to change practice (Howell 2000 *et al.* 2000, Michaels *et al*. 2007). However, I would suggest that limited time and resources for continuing education and the competing priorities for professional development activities further underpin the need to identify strategies, which can effectively and efficiently promote adoption of pain theory into practice.

First, I suggest that the patient experience is the central focus of pain education. Although this may seem self-evident, I would contend that a reductionist approach to pain education that concentrates only on specific aspects of pain care, such as assessment tools, is less likely to encourage nurses to change practice. I also contend that a broader focus on pain experiences, which for example, includes examination of the determinants of pain, provides nurses with valuable insights into the patients' pain experience and may be more likely to influence their approach to practice. A review by the WHO in 2005 lists patient-centred care as one of the basic competencies for dealing with chronic pain (Pruitt and Epping-Jordan 2005) and further endorses the need to place the patient experience at the centre of pain education.

As a related strategy, I recommend strongly that pain courses should build in opportunities or even requirements for nurses to reflect on their pain practice. This reflection encourages them to gain a useful perspective of how pain practice is actually carried out and will help nurses to identify any deficits in practice and potential barriers to implementation of evidenced based pain care. Although there is a great deal of consensus in research findings to explain the theory-practice gap in pain care, I would argue that this evidence has limited impact unless nurses' themselves can acknowledge the deficits in their own practice. The benefits of reflective practice for enhancing care in wider areas of nursing is identified in the Department of Health (DOH) publication, Modernising Nursing Careers (DOH 2006). Recommendations from that publication endorse the principle that delivery of care should be based on evidence and critical thinking and how this connects with policy recommendations for nursing work.

I would also suggest that there is a need to emphasise accountability for pain practice. Nurses need to be educated about the role and responsibilities they have in relation to pain assessment and management and ultimately ensure that their patients are pain free. With reference to broader areas of nursing accountability, the DOH (2006) also stress that nurses should lead, co-ordinate and commission care, as well as provide care, which can be measured by health gain and health outcomes.

I maintain that educators need to take account of the complexity and variability of the practice context in which pain care is delivered to ensure that information is relevant, contemporary and applicable to the realities of clinical practice. If educators are to

respond to some of the challenges posed by the theory-practice gap they also have a responsibility to ensure that what is taught is relevant and achievable in practice.

As a related point, I also recommend that education and practice need to work collaboratively to ensure that there is synergy between pain education and practice. For example, it is difficult to encourage nurses to implement research findings that are not reflected in ward or organisational policies. Additionally, if interventions are established within organisational policy, this helps to ensure longevity of application, particularly as education participants may move on after they complete a course or implement their interventions.

Both the literature review in Chapter 2 and the nurses' own examination of pain practice in Chapter 5, confirmed the existence of complex and enduring barriers to the implementation of evidence based pain care. Furthermore, it was apparent from the research findings in this study that successful changes to pain care which were collectively implemented, required multidisciplinary consensus to enable changes in pain practice at organisation level. Additionally, the impact of policy requirements for nurses in group one, such as those specified in the outcomes from the review of surgical services provided the impetus for practice intervention. Therefore, while the individual effort of all health care professionals is pivotal both to successful assessment and management of pain conditions, the findings from this study also demonstrate the need to consider pain care from a broader policy perspective.

Within the past ten years a number of reports have highlighted the need to incorporate chronic pain care into health care policy and have drawn up

recommendations which reflect those aspirations (Clinical Standards Board 2000, McEwen Report 2004, Chronic Pain Policy Coalition 2007, NHS QIS 2007). These reports have reported on and responded to, the perspectives of patients, healthcare professionals and organisations responsible for strategic health care planning. Yet despite reports which include constructive recommendations for pain practice concern persists about the slow pace of change (NHS QIS 2007). The picture with acute pain care is similar to that of chronic pain. Despite wide consensus about the problems which exist with effective delivery of acute pain services, Powell *et al.* (2004) suggest that concrete solutions are proving hard to implement. Responding to this challenge, Powell *et al*. (2004) call for a two-fold response to the problem, including, securing greater political commitment to pain services and using organisational approaches to address current deficits. There is a growing belief that further development to integrate pain care into legal standards and practices will prove more conducive to improvements in pain management. Responding to challenges posed by the McEwan report (2004), Power (2005) suggests that Health Boards in Scotland should not be asked if they wish to integrate pain service, rather this should be a required level of service provision.

I argue that more collaborative approaches to pain education would be more successful in meeting patients' pain relief requirements and in particular for management of complex problems. It is now widely accepted that accountability for pain care exceeds the boundary of one individuals' professional practice and should reflect multi-disciplinary effort (Weissman *et al* 1997, Van Niekerk and Martin 2002). I suggest that a multidisciplinary approach to pain education, which involves doctors, nurses and allied health professionals can help the different professions to work

together to develop a shared understanding of effective pain management approaches, and the contributions and responsibilities each discipline has to the patient. This becomes more imperative as the roles and responsibilities around prescribing practices, in the UK, become less distinctive. Advocates of collaborative education approaches to pain care are increasingly urging planners and educators to implement collaborative pain courses (Dalton *et al.* 1999, Cobb 2006) arguing that practice is more likely to be effective and result in positive patient outcomes with multidisciplinary involvement in pain programmes (Cobb 2006, Chronic Pain Coalition 2007).

Finally, I maintain that action research is practically relevant and produces knowledge that can be shared within the wider health care community for developing professional practice. It provides a means for nursing practice and nurse education to gain a particular understanding of theory and practice and the way each informs the other to provide effective solutions for patient care.

9.6   DIRECTIONS FOR FURTHER RESEARCH

There is still a need to conduct further research that examines the type of useful knowledge and skills nurses effectively require improve their pain practice. The recognition that education alone is not sufficient to change practice behaviours implies that other organisational factors need to be investigated to determine how they support practice change. Many studies have explored factors, which inhibit application of pain knowledge in practice. However, there is a dearth of information

that informs us how organisations have successfully supported pain knowledge application.

Given the small number of nurses involved in this study it was difficult to identify significant variations between the nurses and their ability to influence changes in pain care. For example, there was little variation between the nurses in both groups in their descriptions of pain practice and in their response to research participation. However, I would suggest that some factors may merit further investigation. Notably, the more recently qualified nurses from both of the groups considered themselves to be the least influential in terms of implementing interventions. They also found it more difficult to challenge episodes of poor pain practice. Several recommendations have been made to improve the pain curriculum in pre-registration nursing programmes (Davies and McVicar 2000a, Maclaren and Cohen 2005, Carr 2007). However, it is important to explore how nurses go on to use their pain knowledge following registration if these recommendations are to be effective. The findings that emerge from the study also indicate the pivotal role that theatre nurses have for providing effective pain relief. They often assess the patient pre-operatively and provide nursing care from the immediate pre-operative period until recovery from anaesthetic. Therefore, further examination of the theatre nurses' role with pain care and identification of the conditions that can enhance their role to support a pain free experience for the surgical patient are necessary.

There is a need to develop further intervention studies that examine the effectiveness of pain education on patient outcomes in other contexts and there is only limited evidence in UK based literature about the outcomes of multi-disciplinary

approaches to pain education or pain care or the impact of extended roles on pain care practices and patient outcomes. Finally, many studies have evaluated educational impact over a short time period, but it is important that changes in practice be evaluated over longer periods to determine which aspects of pain education have the most sustained impact on practice.

I found that nurses in this study expressed concern about the inability of organisational structures and processes to keep pace with day care provision. Evidence is emerging from research that suggests pain problems are not fully resolved and patients continue to suffer pain after discharge. It may be that pain problems become even more hidden as patients continue to experience pain at home. Research that examines the impact of patient information and its effect on pain management and pain outcomes will help to identify factors that can be successfully used to support patients to self-manage their pain more effectively.

Given the growing potential for policy to direct the implementation of evidenced based pain care, there needs be an examination of the impact of policy developments within pain curricula. If pain education and research, are to both influence and reflect policy changes in pain care, the connections between these related activities requires greater transparency. As a related point, the challenges required of organisations to respond to research findings and policy imperatives points to further examination of organisation systems that support or hinder such developments.

Finally, action research provides one approach to the challenges around implementing evidenced based practice. Action research is particularly suited to identifying problems in clinical practice and helping to develop relevant and workable solutions to these problems. Because action research is an approach whereby professionals can work together to discover what issues of concern are, why they exist, and how they might be addressed, this approach can help to promote practice change as well as producing useable knowledge that can be relevant to other practice situations. Importantly, the participatory characteristics of action research increase the opportunities both for health care professionals and patients to engage in pain research agendas.

9.7   CONCLUDING REMARKS

Throughout the inquiry it was necessary constantly to reflect on what the research was achieving and in particular the processes that helped to realise the possibilities for action nurses identified in the inquiry. Most important the research should have led to improved pain practices and better pain outcomes for the patients that the nurses in this study looked after. The consequence of successful pain care strategies was most succinctly summed up by this surgical nurse:

> I1 The pain was actually beautifully controlled…at the end one family member said…I can't thank you all enough…the most that could be done was done…obviously the relative meant everyone, the consultant, the nurses, the house officer, the hospice staff. I would say definitely that what comes to my mind, there is no one person that has the monopoly on knowledge…that was a team effort, nobody is there for 24 hours…the different types of expertise, they were working hand in hand to support each other, to collaborate and that manifested it itself in a good experience for the patient and family, or as good as it could have been in the circumstances. That justifies learning.

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Appendix 1   Department Research Ethics Committee

10   RESEARCH ETHICS COMMITTEE

FORM RE1

Application for approval

Department of Nursing and

Midwifery

NAME   Annetta Smith

DESIGNATION   Senior Teaching Fellow

INSTITUTION   University of Stirling

STUDENT NO.   9822182 02

QUALIFICATIONS   RGN, Dip Life Sciences, RNT, BA, MA

SUPERVISOR   Dr Bill Reynolds / Professor Sally Brown

FUNDING BODY   N/A

SUBMISSION DATE

_____

APPLICANT'S SIGNATURE   _____

SUPERVISOR'S SIGNATURE

_____

Date

OUTCOME

_____

SIGNED

_____

Chair, DNMREC

DATE

_____

11   RESEARCH ETHICS COMMITTEE

FORM RE2

Ethical and methodological questionnaire

Department of Nursing and

Midwifery

In order to help the REC identify potential ethical and methodological issues in you research project, please complete the following questionnaire.   For each question, please circle either **Yes** *or* **No**.

If you respond **Yes** *to any of the questions, please make sure your proposal provides enough information on that particular topic to allow adequate evaluation by the REC.   For example, if you make a* **Yes** *response to Q9 in the "Risks and Safeguards" section, explain what form the stress might take (or why it might be anticipated), why running this risk is necessary for the study, and what measures you have put in place to deal with it.   If you are unsure of the detail required, please contact the REC (and, if you are a student, consult your supervisor).*

2.1 Procedure

Have any of the methods or procedures in your proposal been developed specifically for this study (for example, measuring instrument, questionnaire)?

<u>Yes</u>   No

(refer to study design and appendix 2 and 3)

Have you dispensed with power calculations in determining the sample size for the study?

<u>Yes</u>   No

3.   Will any of the participants in your study be unaware that they are subjects?

Yes **No**

4.   Is deception involved (that is, will participants be deliberately misled about the purpose of the study, their own performance, or any other feature of the study)?

Yes **No**

Informed consent

5.   Is it likely that any of the subjects will be not be able to fully understand the information sheet, and give informed consent.?

Yes **No**

6.   Does the study involve participants who are not legally, or practically, able to give their valid consent to participate (for example, children, prison inmates, cognitively impaired individuals)?

Yes **No**

7.   Is any inducement used to obtain the subject's participation?

Yes **No**

8.   Will information about the participants be obtained from sources other than the participants themselves?

Yes **No**

Risks and safeguards

9. Does the study involve a risk of physical or emotional stress, or is there any reason to think that some participants might anticipate such stress?

Yes **<u>No</u>**

10. Is there any threat to the personal safety of study participants, including the researcher?

Yes **<u>No</u>**

11. Are there are any other potential risks to the wellbeing of the study participants?

Yes **<u>No</u>**

12. Is it likely that any of the participants will regard you (or any of your research associates) as being in a position of authority or power, and that they may react accordingly?

Yes **<u>No</u>**

Although the researcher may be viewed as being in a position of power for rewarding grades for course unit. Marking is carried out anonymously and is a collaborative event involving all teachers involved in the unit across the department. No part of student's academic course work will be used in this study. Students will be aware of these arrangements

13. Will participants be asked to provide information on highly sensitive topics?

Yes **<u>No</u>**

(Not highly sensitive, but sensitive issues may arise when participants are reflecting on their practice)

Data handling

14. Will participants identify themselves by name directly, or by any other means that will permit you to match data to specific participants?

Yes <u>No</u>

15.   If participants are identifiable by name, do you intend to recruit them for future sessions?

Yes <u>No</u>

16. Is there a possibility that a participant's identity can be determined by someone other than the investigator?

Yes <u>No</u>

17.   Is data to be held on computer?

<u>Yes</u> No

18.   Do you intend to use data for teaching purposes?

Yes <u>No</u>

19.   Would dissemination of the research findings compromise confidentiality?

Yes <u>No</u>

Plan of investigation

In order to evaluate the ethical and methodological implications of your research, the REC needs a full account of the proposed study under each of the following headings. A full and clear account of the study's design is absolutely necessary to secure an adequate review of the research proposal. Any protocol submitted for review that is of insufficient clarity, or lacking the details necessary for a fair and complete review, will be returned to the applicant without review.

Rationale

This section should explain the background to the study, and give reasons for thinking that a study of this kind is likely to be of value to the field concerned. References may be included as an appendix.

The ability to perform comprehensive and accurate pain assessment is considered to be one of the most fundamental tasks a nurse performs in the course of their work. Assessment of pain has been described as the 'fifth vital sign' the nurse should consider when assessing the patient's condition (White 1978). Camp-Sorrell & O'Sullivan (1991) suggest that the nurse is constantly challenged to understand patient perception of pain and this understanding only begins with assessment. Assessment of pain should not be considered a 'once only' activity but a recurrent one occurring throughout the whole patient encounter. The importance of patient assessment to determine initial pain relieving needs should be self-evident. However successful pain management relies on accurate assessment and reassessment of the patient's pain while continuous appraisal of the effectiveness of pain interventions is an integral part of this assessment process. When pain is not accurately assessed it is difficult to determine the effects of pain interventions and necessary modifications in treatment may not be initiated.

Despite the overwhelming acknowledgement that pain assessment is central to effective pain relief a substantial body of evidence exists to suggest that this is not always done nor effectively carried out (Bonica 1990, Royal College of Surgeons 1990, Carr 1997, De Wit et al 1999, Chapman 2001, Watt-Watson 2001). Whilst a range of conditions have been identified in the literature as posing barriers to nurses when assessing patient pain, one of the most recurring themes refers to the nurses lack of knowledge (Cohen 1980, Morgan et al 1994, Camp-Sorrell & O' Sullivan 1991, Field 1996, Grant et al 1999 De Rond et al 2000). Lack of knowledge about pain assessment would suggest that nurse's assessment behaviour would improve as a result of educational intervention (De Rond 2000) and studies do exist that support this premise (Vortherms et al 1992, Dalton et al 1996). Other studies that have measured the effects of education intervention have reported more mixed results, with little conclusive evidence that education positively affects sustained changes in nurse's pain assessment practice. It appears that nurses may gain appropriate knowledge but find it difficult to apply that knowledge in practice. Reasons why pain education appears to have such limited, short term impact merits some consideration. Nurses fail to apply knowledge because what is taught may be difficult to apply in practice, or they come across barriers within their clinical environments that necessitate at best modification of what has been taught. Pain courses that have demonstrated greater success in changing practice have reported the use of additional interventions (De Rond 2000) in conjunction

with education. Access to pain education courses by themselves have not been demonstrated to be consistently effective in developing sustained practice changes.

A range of issues have been attributed to the inadequate or inappropriate care of patients experiencing pain, with authors suggesting that failure to carry out pain assessment can be linked to a variety of factors. A number of patient and nurse characteristics have been investigated to determine their effect on pain assessment including the gender of patient (Cohen 1980), ethnic group (Calvillo & Flaskerund 1993) and patients reluctance to report pain (Clark et al 1996). Whilst education may help to address these barriers, Mason (1981) suggests it is not just the nurses educational preparation that influences pain assessment practices. If pain education is being provided then something else other than lack of knowledge must be considered. One of the reasons that educational expectations are not always transferred into practice may have to do with the nature of the practice setting itself. Some evidence suggests that education is not by itself adequate, if attitudes, social and structural problems help to maintain inappropriate behaviours.

One of the main goals of professional education is to influence behaviour or change nurses practice (Popiel 1997). Participants are expected to acquire new knowledge and skills, which will be translated into improved practice and patient outcome Camp-Sorrell & O 'Sullivan (1991). Despite advances in knowledge and education it appears that this is not always readily translated into practice. In an attempt to address this discrepancy, the factors that may affect the transfer of knowledge into practice merits some consideration. Cognisance needs to be taken of the conditions within the nurses work environment, which promote or hinder the application of knowledge and skills. The complex environment in which health care is delivered means that decision-making and care giving will be influenced by an extensive range of structural and interpersonal dimensions. These need to be considered within an evaluative framework if an appraisal of the effects of pain education is to be explored.

The importance of considering contextual factors has been highlighted by a number of authors. Studies that reviewed effects of pain education conclude that barriers continue to exist in clinical areas that impede the care of patients Grant et al (1999). Camp-Sorrel & O'Sullivan (1991) highlight difficulties caused by staffing changes and fluctuations in staffing levels. A study by de Wit et al (1999) concluded that problems lay with use of assessment tools, patient education, continuity of care and communication within the clinical environment. de Rond et al (2001) suggests patients had difficulty expressing their pain in a number, daily pain assessments took time, and doctors did not make adequate use of the assessments. Non facilitative attitudes has also been identified by Brockopp et al (1998) who cite an exhaustive list of barriers to implementation of pain assessment practices,

including lack of organisational stability, changes in personnel involved with study, the inability of nurses and doctors to work together, cultural and religious biases, physicians fear of legal repercussions and lack of resources.

Whilst these studies provide some insight into contextual factors which impede pain assessment practices, evaluation of courses have largely been limited to asking why they were successful or failed in influencing practice. Brockopp et al (1998) suggests that although lack of knowledge constitutes a barrier for pain assessment, consideration of further contextual barriers have not been undertaken.

The limited effect of some education interventions to influence practice suggests that there is room for innovative approaches to improve pain assessment practices. It becomes apparent that a method should be chosen which is congruent with the nurses' situation, one that recognises both the context of learning and practice, and is more collaborative. Action research embodies a number of characteristics that address some of the problems inherent in knowledge application. Holter Schwartz-Barcott (1993) attribute the growth of action research inquiry to the ongoing concern between the theory, practice, and research gap. They suggest that action research was developed specifically to address this discrepancy.

Thomson (1997) describes how nurse educators are increasingly operating in a research culture, reviewing ones own practice is part of the process. Advances in educational practice can only be evaluated and developed if the principles of research are incorporated into practice. In nursing terms the primary purpose of action research can be viewed as the implementation of change to solve a nursing practice problem, in essence methodology attempts to change practice. Streubert and Carpenter (1999) contend that if researchers main purpose is to implement change and empower practitioners in the process then participatory action research is the choice of method. It provides the mechanism for changing practice and evaluating the success of that change,

This study will incorporate an action research approach to the challenge of changing nurses pain assessment practice. It is anticipated that the level of participant involvement in the study will have a greater effect by influencing sustained changes in practice. Essentially a participative approach involving nurses and educators will be taken to review existing pain assessment practices, identifying potential areas for improvement, devising interventions which will contribute to effective pain assessment, and finally reviewing the effect of these interventions.

The value of this study can be considered from a range of perspectives, firstly as Government and professional agencies make efforts to improve pain management by publishing and disseminating clinical guidelines, it becomes increasingly urgent that practitioners possess knowledge to implement

guidelines in practice. The need to deliver informed, evidence based practice has reinforced notions of personal and professional accountability. Recognition that nurses must be equipped with the knowledge, skills and attitudes to deliver the service patient and families expect is clearly emphasised in key strategy documents (UKCC 1999). The significant financial investment for continuing education for nurses suggests that education outcomes must increasingly demonstrate relevance, accountability and value for money. Approaches to improving or changing practice which co-exist alongside education courses should be evaluated for their ability to influence sustained practice changes.

Secondly an action research study can make a valuable contribution to theory development. Although the development of theory is not the main purpose of this type of research, Lindsey (1998) suggests that theory may be generated from the experiences, lives and self-understandings of those engaged in the research. Theory development by action research has been referred to as local theory (Argyris & Schonn 1991) or grounded practice (Rolfe 1996). The term local theory perhaps best reflects the notion that knowledge produced is contextually bound. In other words the theory that arises from an action research study is influenced by the social situation in which it is created.

Development of theory also emerges as a key characteristic of this approach whereby action research contributes to scientific knowledge about a particular system. As action research is context specific and situational the purpose of action research is not to produce general assumptions, however it is possible that the theory can contribute to existing theories by generation of additional knowledge. Whyte (1991) suggests that there is potential for action research to make this theoretical contribution by placing ideas in the context of pre-existing literature.

Most importantly action research has been utilised in a variety of care settings in an attempt to improve the quality of care delivered. An important advantage of a collaborative model is the strong link that can be fostered between education and practice. In addition the collaborative nature of the approach gives participants the opportunity to be actively involved in a research project and provides an opportunity to solve clinical problems.

Aims

The account should outline the specific aims of the study, and identify a research question or hypothesis.   It should be clear what, in particular, is expected to be learned from this study.

To evaluate the effects of a collaborative educational approach to nurses' pain assessment practice.

Research Questions

How do nurses use knowledge gained during a pain course in their clinical practice?

How do nurses negotiate barriers in their clinical environments to improve pain practices following participation in a pain course?

How does collaborative engagement in action research affect nurses' capacity to influence pain assessment and management practices?

Study design

The proposal should give a clear and concise account of the study design, identifying all the main parameters.   In the case of an experimental design, it should be clear by what methods subjects will be assigned to experimental and control groups (randomisation, matching, self-referral, and so on).   For a survey, it should be clear what population is being surveyed, and what sampling procedures will be adopted.   For field work, case studies and ethnography, it should be clear what the specific units of study are, and which groups, organisations, cultures or practices they are drawn from (or intended to be representative of).

An action research approach will be used in this study. Action research involves a series of logical progression of stages that can be identified as research, action and evaluation. Study design associated with action research reflects a spiral process of reviewing, planning, implementation and evaluation. This spiral process is reflected in the stages of this study. Kemmis (1993) describes how the action researcher will strategically embark on a course of action, monitor the action, the circumstances under which it occurs and its consequences. The stages include identification of problems, development of strategies, implementing of strategies and evaluation of the consequences. The researcher then goes on to retrospectively construct an interpretation for the action in its context as a basis for future action.

The first stage of action research is to understand aspects within the settings before change or improvement occurs, thus it is important to view aspects of current practice. This will begin with a detailed review and analysis of pain assessment practices in the participants clinical areas. This process will help to identify any difficulties associated with pain assessment and areas where potential

for improvement exists. At this stage the goal is to gain an overall impression of the way pain assessment is approached in the participants clinical environments. This information is obtained prior to any education interventions. Group interviews contribute to the first stage of data collection.

The use of groups will form the primary method for data collection throughout the study. As action research is a collaborative endeavour, it has an affinity for working in group situations (Hart & Bond 1995), and as such is the obvious method of data collection for this study. A series of group interviews will occur over the course of the study, again an essential feature of the approach. May (1991) suggests that repeated contacts is needed when change over a period of time is of interest to the researcher.

A second series of group interviews will take place after course completion using the same groupings. The primary aims are to allow participants to review the impact of the pain unit on their knowledge of pain assessment and their subsequent approach to practice. Participants will also be given the opportunity to reflect on their pain assessment practices post course by reviewing a critical incident and the subsequent effects of participation in the pain unit on their actions. They will also be asked to revisit pain assessment practices in their clinical area and identify potential areas for development

The collaborative nature of an action research approach underlines the importance of participants being involved in initiatives for changing practice, rather than having these imposed on them. With the help of data from earlier interviews participants will be given the opportunity to suggest a course (s) of action to improve pain assessment practices in their clinical areas. Implementation and subsequent evaluation of these actions will comprise the latter stages of this study.

Purposive sampling will be used to identify participants for the study. This type of selection is a feature of qualitative research and ensures selection of informants that are best able to meet the informational needs of the study (Morse 1991). The study sample will comprise participants who will be registered nurses undertaking post-registration degree courses in the Department of Nursing, University of Stirling. Participants will have registered for the Pain Assessment degree unit at Highland Campus and Western Isles Campus.

An overview of the research plan is found in appendix 1.

Population and sample

Describe the study population, giving specific reasons (where relevant) for using a vulnerable population such as children, individuals with learning disabilities, or any

other groups whose ability to give a proper informed consent is problematic. Include details of the sample size, and how this was determined; and specify criteria for inclusion and exclusion. Information on recruitment procedures should also be provided.

The names of students who are undertaking the pain course will be identified at student registration. A letter from the researcher requesting their participation in the study will be distributed on the day of registration (appendix 2). Agreement to participate in the study will be sought at a later date by the researcher who will initiate contact with the participant. This will give participants time to review the study and find out more information if they wish. Arrangements will be made to meet with participants at a convenient time and site.

Sample size

Participants will only be considered if they are currently working as registered nurses. Nurses who are not in clinical practice when registering for the degree unit will be excluded from the study. Qualitative studies commonly use small samples. Small samples allow for the examination of a situation in depth (Burns & Grove 1993), an approach which corresponds with the principles of action research. Up to 24 participants will be recruited in recognition of possible attrition throughout the study.

Data collection

There should be a clear explanation of the methods of data collection to be used in the study. In particular, if any data collection instrument is specific to this study – a questionnaire, scale, or inventory that has not been used before – there should be a concise account of how it was devised. All materials to be used in the research (for example, questionnaires and interview schedules) should be attached – at least in draft form - as an appendix.

Stage one : Analysis of the problem:

1. Group interviews (Sept 2002)

Group interviews will be carried out by the researcher at the outset of the pain unit. The interview schedule (appendix 3) reflects issues that have emerged form the literature in relation to pain assessment practices. The conduction of semi-structured interview will permit flexibility in scope and depth of interview whilst remaining organised around areas of particular interest (Polit & Hungler 1987). The purpose of the interviews are to review current pain assessment practices, obtain participants perception of care given and identify potential areas of development. Group interviews have a number of advantages, particularly in studies where the social context is important, and

interaction with others can be used creatively to generate ideas. This is particularly important in action research projects, where the research is designed to change as well as to study a situation.

A series of interviews will be carried out at with groups of 8-10 participants; the optimal number recommended (Frey & Fontana 1993). Three groups will be interviewed in total. Interviews will be recorded and transcribed verbatim. Participants will be given the opportunity to review transcripts and remove data if they wish. Throughout the study transcripts will be transcribed and analysed as they are completed.

The importance of the facilitators role in conducting group interviews is recognised. Procedures for running effective groups will be followed (Hart & Bond 1995). These include:
- emphasis on confidentiality
- encouraging everyone to have a say
- providing a sense of direction and purpose

Participants will not participate in research activities throughout the course of their degree unit.

2. Group interviews   (December to January 2003)
Interviews will be carried out with the three groups of 8-10 participants following completion of each pain unit. The purpose of these interviews is to review participants' perceptions of the effect of the pain course on their pain assessment practices. Participants will also be asked to review additional interventions that can be used in their clinical practice to improve pain assessment practices. The broad aims of the post course interviews are detailed below. Questions may also arise from preliminary findings generated from earlier data. This is a common feature of qualitative research (May 1991). The interviews will be recorded and transcribed verbatim. Participants will be given the opportunity to review transcripts and remove data if they wish. Analysis of data will be ongoing.

Aims of post course interview
- to review the impact of the education intervention
- to evaluate the participants awareness of pain assessment issues
- to describe the impact of pain education on the participants practice
- to explore participants perceptions of barriers and facilitators to pain assessment
- to explore with participants additional interventions which can used to improve pain assessment practices in their clinical practice

Critical incident analysis

Additional data will be collected by asking each participant to write a reflective account of one critical incident reviewing an episode of pain assessment they were involved with. Critical incidents will provide an additional level of data gathering or an alternative perspective on issues concerned with pain assessment that may not be made available through group interviews. The purpose of this is to maximise data sources which 'capture a more complete, holistic and contextual portrayal on the units under study' (Jick 1983:138). Knafl & Breitmayer (1991) suggest that this is a useful approach for qualitative resercahers who are seeking to a complete, contextually embedded understanding of an area of interest. The use of critical incident analysis will allow the participant to reflect on their pain assessment practices post course. Guidelines will be given to the participants on reflective accounts that encourage the use critical dialogue (appendix 4). Frameworks for guiding reflective thinking will be guided by and Johns' framework for reflection on action (1995).

Stage 2 : Action

Meetings will be held with participants in the previous groupings where findings from data analysis from the first stage of the study will be discussed. Participants will be asked to review and choose an intervention which will contribute towards more effective pain assessment practice. A plan of action will be developed with participants taking account of:

- descriptions of desired practice changes
- process of implementation
- method of evaluation plan
- timescale for evaluation will be 12 weeks from start of intervention

Stage 3 : Evaluation

This will include a review of the intervention(s) selected by each of the three groups. Participants will reflect on and evaluate the effect of their intervention/s. Group interviews will be conducted with the original 3 groups to review and evaluate the effects of the intervention(s) in their clinical practice. In order to engage in reflection participants will be encouraged to think about the way the new action is affecting them and their practice. Adjustments to action may be reviewed at this stage depending on participant's accounts. Evaluation occurs at several identified points through the selected action or at its conclusion. Again triangulation of methods can contribute to the fullness and accuracy of the account.

The purpose of this phase of the study is to evaluate the action(s) that have been put in place to improve pain assessment practices. It is not the intention to evaluate the clinical settings, but rather to review with participants the effects of their actions. For example, it is anticipated that a collection of

issues will be reviewed here including barriers and facilitators to practice initiatives. The effects of involvement by participants in an action research project will also be reviewed. Information gathered form this part of the study will contribute to areas that have previously been identified in the initial review section of this submission.

In the final stage of this project it is important that the researcher meets with the participants to present findings that can then be verified by the group. This is necessary to establish practical authority and more meaningful evaluation (Streubert and Carpenter 1999). Data recorded during this phase may be an important contributor to emerging theories or may help to generate hypotheses for future testing.

Throughout the project evaluation will focus on with the planning and implementation of changes to pain assessment practices nurses who have participated in the study.

Analysis

The proposal should include a section which explains how the data will be analysed in order to provide an answer to the research question. The account should be more specific than bare references to "computer analysis" or "grounded theory", and should identify and explain the strategy of analysis which the applicant proposes to adopt.

Throughout the study transcribing and analysis of data will be ongoing. Interview data will be entered into computerized qualitative analysis package, e.g. NVIVO, a qualitative package developed from NUD*IST. This allows a number of interviews to be organised in a way that makes them easily assessable and facilitates data analysis.

Semi structured interviews will be analysed using open coding method of content analysis (Strauss & Corbin, 1990) to identify themes that relate to the study questions. These themes can then be grouped into categories that will subsequently guide the overall analysis of the data. This reflects the overall approach to the study and will allow common experiences to emerge and inform subsequent data collection. These steps are congruent with the study design.

Potential risks

Describe carefully the potential risks of your study (whether physical, psychological, social, emotional, legal, professional, or other) to any of the participants, but especially to subjects.   Estimate the size of the risk, and assess its seriousness (offering an

explanation in each case). If you are proposing to adopt any procedures which carry certain risks with them, explain why these procedures are necessary. Identify alternative procedures that might be used, and give reasons for not adopting them in this case.

Little potential risks are anticipated although sensitive or confidential issues may arise during data collection. Issues pertaining to confidentiality will be established with each group at the beginning of the study. The potential for researcher influence has been minimised as much as possible by restricting research activity to times outwith participation in the degree unit.

Safeguarding against risk

Describe the particular procedures (for example: proper screening of risk-prone individuals; availability of psychological support or medical aid; methods for detecting illness) which will be taken to safeguard the welfare of subjects. In addition, describe any debriefing procedures.

All transcribed data, and information regarding emerging themes will be made available to all participants who will be able to clarify or remove any information. Participants will be aware when their involvement in the study concludes and an opportunity will be provided during the last group meetings to review issues which may of outstanding concern to participants.

Informed consent

Information sheets and consent forms should be included in the application; but you should also explain the procedure by which you propose to obtain valid consent, indicating especially the circumstances in which prospective participants will be invited to take part. Details of any inducements (payments, or any other form of incentive) should be provided.

A copy of information describing the study, its purpose and proposed use of data will be given to each participant (Appendix 2 and 5).

Written consent will be obtained form each participant (Appendix 6).

The following notes may be helpful.

Written consent must be obtained, to demonstrate: that the subject understands the nature and purpose of the proposed study; that sh/e has had an opportunity to ask questions; and that sh/e agrees to participate on a voluntary basis.   The information and consent documents should be readily understandable by the target population.

There is a duty to protect those who may be incapable of giving fully informed and voluntary consent.   These include children, older people, individuals with learning disabilities, those with cognitive impairment, prisoners, and people who are very ill. Such persons should not be involved in research unless (i) the nature of the study makes their participation essential, (ii) the potential value of the study clearly outweighs the risks incurred by undertaking it, and (iii) there is clearly no alternative to conducting a study of this particular type.   When these conditions hold, consent must be obtained also from those who have legal responsibility for the welfare of any vulnerable participants.

Using language that is understandable to the participants, researchers should inform prospective participants of the nature of the research.   They should explain that participants are free to take part, if they so wish, but that they are equally free to decline, and subsequently to withdraw from the research if they change their minds. The researcher should outline the foreseeable consequences of declining or withdrawing; and inform the prospective participant of significant factors that might be expected to influence a willingness to participate.   For example, it should be clear to the prospective participant that refusing to take part in the study will in no way compromise any health care they may currently be receiving (or which they may subsequently need).   In a similar way, if students are invited to take part in the research, it must be clear that their involvement is entirely independent of their studies and, specifically, will have no effect on academic credit.

Researcher's role

In many studies, the way the researcher is perceived by the participant makes a considerable difference to the prospective participant's willingness to become involved, and subsequently to the way in which s/he responds to interview questions (or other research protocols).   This often creates ethical, as well as methodological, problems.

The proposal should, therefore, include an account of the role which the researcher will adopt, and explain how any problems arising out of this role – being seen as a health care professional, or a "person in authority", as well as a researcher – will be overcome.

For the purposes of this study the researcher will be also be the teacher who delivers the pain unit as part of the degree program at Campus A and B will have access to another member of teaching staff. Any potential ethical problems that may arise as a result of this have been reduced as much as possible. Apart form the initial interview, data collection will occur post course. In this way participants will not be asked to contribute to any extra research activity during the course of their unit. Following the initial group interviews the next stage of data collection will occur after the participant completes the degree unit. Further safe guards have been identified in the student information sheet.

Arguments have been presented which advise against the researcher undertaking research in a familiar setting. Inherent problems concerned with reliability and validity (Hanson 1994), the inability of the researcher to achieve adequate distance (Estabrooks, 1987, Ashworth 1994), and lack of objectivity (Bogdan &Taylor 1984, Hammersley & Atkinson 1983, Ashworth 1986) have all been raised as legitimate concerns. Most significantly arguments are presented which contend that insider research is inherently biased. Whilst Aguilar (1981) acknowledges this risk he suggests that the risk of such bias occurs in all research. Furthermore these concerns ignore the premise within many qualitative approaches, which is that no one person can be entirely 'value free' and thus total objectivity can be difficult to attain. When the researcher is also the teacher, concerns of power, coercion and influence merits further consideration. Whilst these concerns can be directed at many qualitative research methods, realistic efforts to eliminate these concerns need to be addressed.

Firstly the participative nature of an action research approach needs to be fully acknowledged. It is recognised that the nature of action research is such that the researcher becomes close to the group and may gain personal knowledge about members of the group and gain power within the group. Awareness of this means that the researcher must strive for neutrality (Streubert & Carpenter 1999) and ensure that the aims of the research are sufficiently delineated so that clear focus is maintained Field (1991). While this may not eliminate all the problems entirely, clear aims will provide a focal point for focused study progression. The aims of this study are clearly identified and research interventions timed so that summative progression of students through the course is not in any way connected with study activity.

Secondly, issues concerned with real or accidental use of power and influence is counteracted by the

nature of an action research approach. A fundamental principle of an action research project emphasises the shift of ownership to the participants, (although it is impossible to mandate this in advance), this further reduces the influence of the researcher on the group as the groups themselves increasingly participate in decision making, interventions and evaluations. Lindsey et al (1999) notes that action research is not done on or for, but with the research participants. Additional interventions such as proposed participant review of data further develop this process.

Finally the role of teacher as researcher is not new and many studies exist where the teacher has reviewed the effects of their educational practice within nursing contexts, (Lauri 1990, McCaugherty 1991, Burrows 1997, Meyer 1993, Dalton et al 1996, de Rond et al 2000, de Wit & van Dam 2001, Simmons 2002). The advantages of researchers operating as 'insiders' have been widely recognised (Greenwood 1984, Burgess 1984) and in some cases actively promoted (Melia 1982, Brown 2001). While Bogdan & Taylor (1984) recommend that it is preferable that researchers are not too intimately tied to what one studies, recognition of potential issues and subsequent action taken to realistically reduce or eliminate concerns have been considered within this study design.

Sensitive topics

The applicant should indicate how s/he proposes to deal with sensitive topics, if these are likely to emerge during the course of the research. In particular, where participants are to be interviewed about sensitive matters, the applicant should explain how this experiences will be handled so as to minimise threat, anxiety, or embarrassment.

Data handling

Researchers should have due regard to confidentiality when adopting procedures for creating, storing, accessing, transferring, and disposing of all data, and any records under their control, irrespective of whether these are written, electronic, or in any other medium. The researcher should also maintain and dispose of records in accordance with law, and in a manner which permits compliance with the various provisions of the Data Protection Act.   Under this Act, researchers should not disclose confidential information without the consent of the individual.   The proposal should indicate how data will be handled and stored, so as to conform to these requirements.

[Note: the Department of Nursing and Midwifery is registered under the Data Protection Act, and it would be helpful if applicants could supply copies of all research

protocols, including those subsequently submitted to external bodies, to the REC.]

All audiotaped and written data will be coded, filed and locked in a secure place. Computerised files will be password protected.

Other research ethics committees

The applicant should identify any other research ethics committees to which s/he intends to submit the proposal.

A Health Board Ethics Committee
B Board Ethics Committee

Main ethical issues

The applicant should identify what s/he regards as the main ethical issues associated with the proposed study.   Any circumstances, arising out of the research, which might pose particular ethical problems should be described, and the applicant should offer an account of how such circumstances would be dealt with.   Applicants should have particular regard to situations in which they might, in the role of researcher, elicit sensitive, health-related information which is not known to other health care professionals.

1. The main ethical issue concerns the role of researcher as lecturer, particularly at the Campus A where it is possible that students may feel compelled to participate in the research. To overcome this the voluptuary aspect of participation has been stressed in guidelines to be issued to potential participants. Research activity will also be confined to times outwith the degree unit and will have no influence on delivery and progression of course.
2. Group discussions will be conducted according to good practice guidelines. Rules of conduct will be established by the groups at the outset and adhered to throughout the study.
3. If issues arise whereby group members are involved in eliciting sensitive topics they do not wish to be included in the study or participants become distressed, time out will be enforced and recordings stopped.
4. The relatively small and confined environment which constitutes the campus has been taken into consideration and issues of confidentiality will be reinforced. This study has been discussed with the Director of Nursing Services in A from whom verbal support for the study has been given.

12 Research Stage

2002   **2003**

J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S

12.4.1 Stage 1

- Submit to Dept Ethics & LREC's

- Exploratory Group Interviews
- Data analysis

- Pain Unit – NM52
- Data analysis

Group Interviews
- Review effects of pain course
- Identify areas for development and agree action plans
- Critical incident reviews
- Data analysis

12.5   Stage 2

- Implementation of Action Plan
- Ongoing evaluation

12.5.1 Stage 3

- Final Evaluation of Action Plan
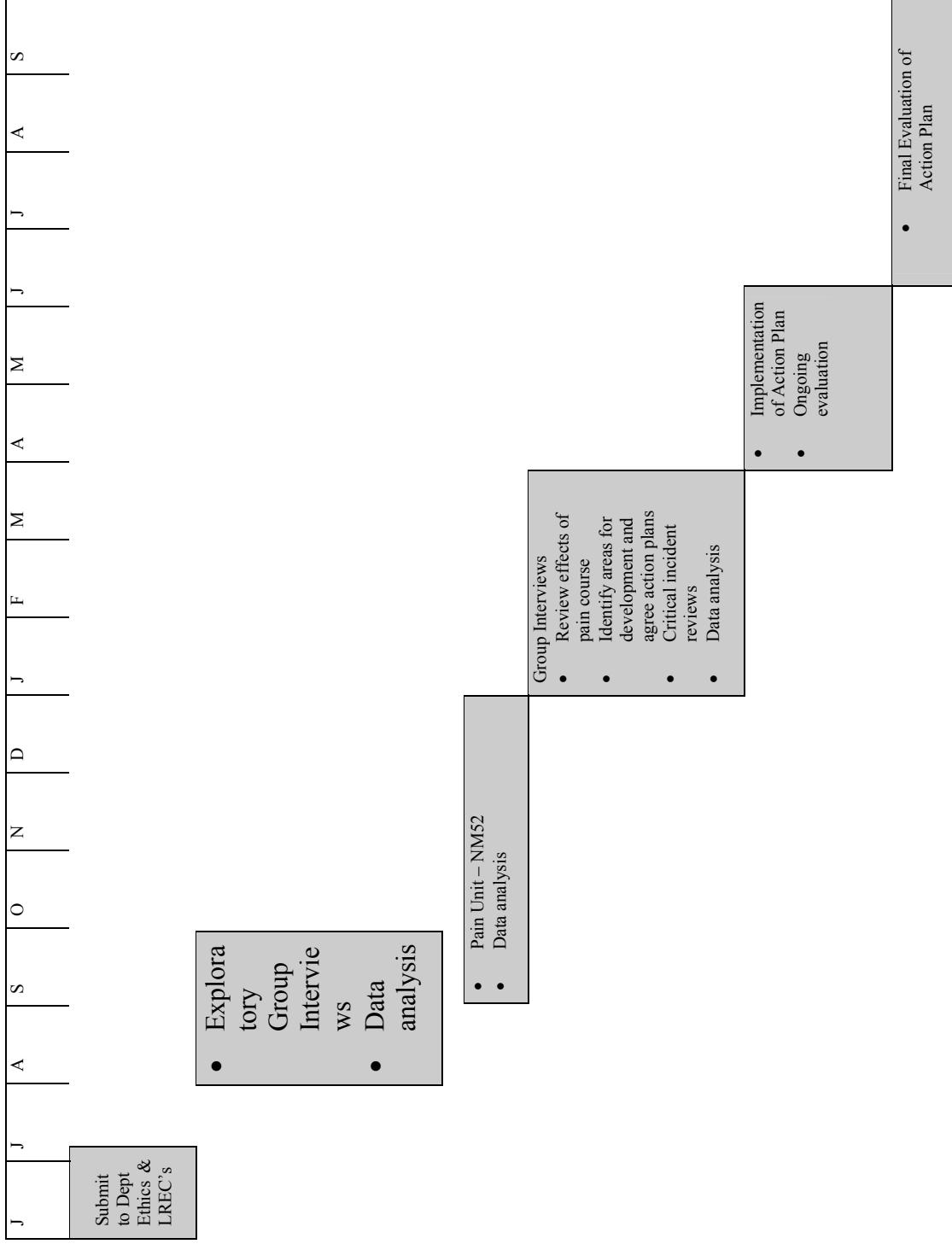
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Appendix 2   Consent Form

Consent Form

_____

I _____the
undersigned

give my consent in agreement to participate in the research programme to be carried out by Annetta Smith of the Department of Nursing and Midwifery, University of Stirling. I have read the summary of the research proposal and feel that I fully understand the implications of the proposals as they will affect me.

I know I have the right to decline the opportunity to be involved and the right to withdraw my consent at any time.

Signed --

Date --

Print Name --

Title --

Place of Work--

Appendix 3 Letter to prospective participants

I am a Senior Teaching Fellow working at the University of Stirling, A campus. I am currently undertaking doctoral research into the effects of pain education on the nurses' practice. I am particularly interested in the way in which nurses who have registered for the pain course are going to use knowledge about pain assessment and management in their clinical practice.

In order to do this I am recruiting Registered Nurses who and are registering for the degree unit, Understanding and Assessing Pain (NM 52) and are interested in examining their own pain practice. I am particularly interested to see how you are able to use the knowledge gained through Pain Unit participation in your practice. Because this is an action research study you will also be asked to consider pain interventions you would like to implement in your practice and the research will follow through your progress with these interventions.

Your participation would involve taking part in a series of group and individual interviews from September 2002 to June 2003. You will also be asked to contribute short reflective accounts relating to pain your pain practice.

All information at each stage of the data collection process would be analysed by myself and discussed with you.

You are assured that complete confidentiality will be maintained throughout the study and at no time will you or your workplace be identified. If you decide not participate in this study this will not affect your progress in any way through your degree programme. You may withdraw from the study at any time.

If you are interested in this study and wish to take part, your input would be extremely valuable and worthwhile. I would be grateful for your participation in this project and look forward to hearing from you. If you agree to take part please complete the attached form and return to me in the pre-paid envelope provided by Sept 3rd 2002

Thank-you for your consideration

Annetta Smith (Senior Teaching Fellow)

Department of Nursing and Midwifery

Tele 01851708245

 as5@stir.ac.uk

Please complete the following details if you decide to participate.

Name

Contact Address

Contact Telephone no.

E Mail contact

Appendix 4   Participant Information sheet

An action research inquiry exploring the transfer of pain knowledge from a continuing education course into practice

Researcher: Annetta Smith

What is the study about?

You are being invited to take part in an action research study that will examine approaches to pain assessment and management in your clinical practice. I am particularly interested to see whether you are able to use the knowledge gained through Pain Unit participation in your practice. Because this is an action research study you will be asked to identify pain interventions you would like to implement in your practice and the research will follow through your progress with these interventions.

Why have I been asked to take part?

Students who are Registered Nurses, currently working in clinical practice, who register for Pain 1 Understanding and Assessing pain, who also intend to register for Pain 2, are invited to take part in the study. Your participation in this study is entirely voluntary and progression through the pain units will not at any time be influenced by your decision to either participate or not take part in the research.

Will this affect progress through the degree unit?

Your progress through the degree unit will not be affected at any time by this study. If you choose to participate you will not be asked to undertake any extra work as part of the degree unit. Any level of participation will be considered separate from your degree unit activity.

Can I change my mind?

Yes, you can withdraw from the study at any time.

What happens to the information that is collected?

All the interviews I conduct will be audio-taped and transcribed verbatim. Transcripts will be returned to each participant so that you may check for accuracy of transcription. All interviews and transcripts will be coded to ensure anonymity, securely kept and used only for the purposes outlined. You will be given the opportunity to review transcripts and remove data if you so wish. Findings from this research will be used to inform my thesis and may subsequently be used for publication purposes.

Will the information be kept confidential?

Yes, all information will be kept confidential and secure. You will be guaranteed anonymity at all times.

Are there any risks to me taking part in this study?

No there are no known or likely risks

If you have any questions about the study, please contact Annetta Smith
01851708245   as5@stir.ac.uk

Thank-you

Annetta Smith

17.9.02

Appendix 5   Participant information

Age	36
Years in practice	15
Hospital	C
Clinical speciality	Mixed general adult ward
Clinical grade at course outset	Charge Nurse, Grade F
Clinical grade at end of course	Charge Nurse, Grade F
Role change after course	No

Age	43
Years in Practice	2
Hospital	A
Clinical speciality	General Surgical
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D
Role change after course	No

Age	35
Years in Practice	15
Hospital	A

Clinical speciality	Surgical Day Unit
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D / Nurse dispenser for PGD
Role change after course	Yes

Age	34
Years in Practice	3
Hospital	A
Clinical speciality	Surgical Day Unit
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade E / Nurse dispenser for PGD
Role change after course	Yes

Age	47
Years in Practice	15
Hospital	D
Clinical speciality	Maternity / Adult nursing
Clinical grade at course outset	Grade F
Clinical grade at end of course	Grade F

Role change after course	No

Age	30
Years in Practice	7
Hospital	B
Clinical speciality	General Surgical
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D
Role change after course	No

Age	48
Years in Practice	30
Hospital	B
Clinical speciality	Theatre
Clinical grade at course outset	Staff Nurse, Grade E
Clinical grade at end of course	Staff Nurse, Grade F/ Anaesthetic nurse
Role change after course	Yes

Age	48
Years in Practice	18

Hospital	B
Clinical speciality	Theatre, Hospital 2
Clinical grade at course outset	Staff Nurse, Grade E
Clinical grade at end of course	Staff Nurse, Grade E
Role change after course	No

Age	51
Years in Practice	4.5
Hospital	B
Clinical speciality	Theatre
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Protocol nurse for Coronary Heart Disease
Role change	Yes

Age	30
Years in Practice	12
Hospital	B
Clinical speciality	Theatre
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D
Role change	No

Age	44
Years in Practice	22
Hospital	B
Clinical speciality	Surgical
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade E
Role change	Yes

Age	48
Years in Practice	22
Hospital	B
Clinical speciality	Medical
Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D
Role change	No

Age	29
Years in Practice	2.5
Hospital	B
Clinical speciality	Medical

Clinical grade at course outset	Staff Nurse, Grade D
Clinical grade at end of course	Staff Nurse, Grade D
Role change	No

Age	45
Years in Practice	20
Hospital	B
Clinical speciality	General surgical
Clinical grade at course outset	Staff Nurse, Grade E
Clinical grade at end of course	Stoma Colorectal Nurse, Grade G
Role change if any	Yes

Appendix 6   Pre course group interview guide

Review purpose of research / interview

Explanation of audio-taping

Clarify status of the information in terms of confidentiality

1. Can you tell me your impressions of pain management practices in your clinical area?

2. How effective do you feel pain management practices are in terms of relieving your patients' pain?

3. How do you approach pain assessment with your patients?

4. Can you tell me the factors you consider important when carrying out comprehensive pain assessment?

5. Can you describe the approach to pain assessment practice carried out in your area?   use of assessment tools / documentation

6. Can you tell me which guidelines or protocols are used to guide pain assessment practices in your area?

7. In your role as registered nurses describe your involvement in pain assessment and management practices?
   - extent of control or influence on practice
   - perception of responsibility for pain care

8. Can you identify any personal limitations that affect your ability to carry out pain assessment and pain management interventions with your patients?

9. Based on your experience can you identify any processes or structures that hinder pain assessment or management interventions?

10. Based on your experiences, are you able to identify processes or structures that help to facilitate effective pain assessment and management interventions?

11. To what extent do you feel that pain practices used in your clinical area provide the optimum level of care?

12. Which aspects of your pain practice could you improve that would help you to provide more effective pain care to your patients?

13. Can you identify any pain related interventions that you would like to take forward in your clinical area?
- individual interventions
- collective interventions

14. Do you anticipate any difficulties if you choose to implement interventions in your clinical area?

15. How do propose that pain unit / research participation will improve your pain practice?

Anything else participants would like to discuss.

Appendix 7   Mid course group interview guide

Ascertain general feelings about course / research participation

1. Can you tell me how participation in Pain 1 has contributed to:

   - knowledge
   - skills/practice
   - confidence to carry out pain assessment and interventions
   - confidence to question practice

2. Which elements of the course did you find most helpful?

   - content
   - research
   - group interaction

3. How did the course meet your expectations/ learning needs?

4. Can you identify any elements of the course which you found did not benefit you?

5. In what way have your pain practices changed as a result of knowledge gained on the course?

6. Can you describe the differences in the way you now approach pain assessment and management

   - use knowledge
   - application to practice
   - approach to patients

7. Can you identify any ways in which your patients have benefited from you participating in the course?

8. In what way have you been able influence pain assessment and management practices in your clinical areas?

9. Have you taken forward any of the pain interventions you identified at the beginning of course?
   - original interventions
   - any new interventions
   - ongoing plans for interventions

10. How did you go about implementing any changes in pain assessment and management practices?

11. How much control do you feel you will have over any changes that you have tried to implement / want to implement in practice?

12. To what extent has pain unit / research participation supported intention to change practice?

Anything else participants would like to discuss.

Appendix 8   Post course group interview guide

Ascertain general feelings about course / research participation

1.   Can you tell me how participation in both pain units has contributed to:

- knowledge
- skills/practice
- confidence to carry out pain assessment and management interventions
- confidence to question practice

2.   Which elements of the course did you find most helpful?

- content
- research

3. How did the course meet your expectations/ learning needs?

4. Can you identify any elements of the course which you found did not benefit you?

5. In what way have your pain practices changed as a result of knowledge gained on the course?

6. Can you describe the differences in the way you now approach pain assessment and pain management interventions?

- use knowledge
- application to practice
- approach to patients

7. Can you identify any ways in which your patients have benefited from you participating in the course?

8. In what way have you been able influence pain assessment and management practices in your clinical areas?

9. Have you taken forward any of the pain interventions you identified at the beginning of course or at the last group interview?

- original interventions
- any new interventions
- ongoing plans for interventions

10. If you have implemented any change in pain practice in your clinical areas, had you planned for these changes?

- review planned changes
- review unplanned changes

11. How did you go about implementing any changes in pain assessment and management practices?

12. How much control do you feel you will have over any changes that you have tried to implement / want to implement in practice?

13. To what extent has pain unit / research participation supported intention to change practice?

- benefits of participation?

14. Are there any further pain interventions you anticipate taking forward after course/ research participation is complete?

Anything else participants would like to discuss.

Appendix 9   Individual interview guide

Revised post course interview   ID

Age

Years in practice

Current position

Position at course outset

Position at end of the course

Role change if any

1. Why did you initially select the pain units as part of your degree course?

personal expectation of benefit

2. To what extent did participation in the degree units meet your initial

expectations?

3. Can you tell me how your perception of the patients' pain experience has

changed since completing the course?

change in perception - influence assessment and management approaches?

4. Can you identify areas of your pain practice (assessment and management)

that you have changed since completing the course?

5. If your practice has changed, how much of this been planned?

6. If you have implemented changes in practice, can you describe the process you went through to achieve this?

7. How confident have you been in your ability to influence pain practice in your clinical area?

8. Can you identify any aspect of your pain practice you had changed but the change was not sustained?

9. Can you identify aspects of your practice you have not changed but feel you should have?

10. Can you tell me what has helped to sustain any changes in your practice that you have initiated?

11. To what extent have the interventions identified throughout the research been implemented?

* barriers / facilitators

12. To what extent have you taken an active role in influencing current pain practices / interventions in your area?

effect of course / research participation

13. If you have made practice suggestions, how have they been received by others?

14. Have you changed aspects of your practice, but not told others?

If so, what prevented you from doing so?

15. Have there been times when you wanted to pass on information, but did not?
    If so, what prevented you from doing so?

16. Can you identify situations when you might have experienced tensions between that way you would have liked to use your pain knowledge and what you were actually able to do?

17. If you have experienced tensions between the application of knowledge and the way things are being done, how do you address these tensions?

18. How would describe the influence course participation has had on your pain practices?

19. Which aspects of the course did you find most influential?

20. Which aspects of the pain course have you found particularly useful when considering the application of that knowledge into practice?

21. Has participation in the pain units affected any other aspect your nursing role?

22. How has participation in this research project influenced your practice?

23. Are there components of the research process you have been involved in that have influenced any areas of your practice / approach to practice?

24. Are you currently involved in any pain related initiatives?

Anything else participants would like to discuss